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A report of a conference held to analyze learning theory as it relates to new media and the learner is presented. The invitational conference was attended by representatives from public schools, universities, State departments of education, educational agencies, and industry.

The knowledge explosion coupled with the current revolution in educational technology required educators to reexamine today's teaching practices. The conference directed its attention to these problems.

The outcome of the conference was five committee reports. The first committee dealt with learning objectives. This committee was primarily interested in identifying task objectives by applying the operational principles to behavioral goals. The second committee dealt with content characteristics and looked at the selection and arrangement of content. The third committee dealt with teacher-learner characteristics. The fourth committee dealt with media characteristics. This committee reviewed such media as educational television (open circuit), language laboratories (with audio-active-record facilities), and educational classroom films (color/sound and special subject matter). The fifth committee dealt with the physical environment. It felt that the functional use of media is facilitated by provision of optimum environmental conditions, and educational space should have an atmosphere conducive to the teaching-learning process.

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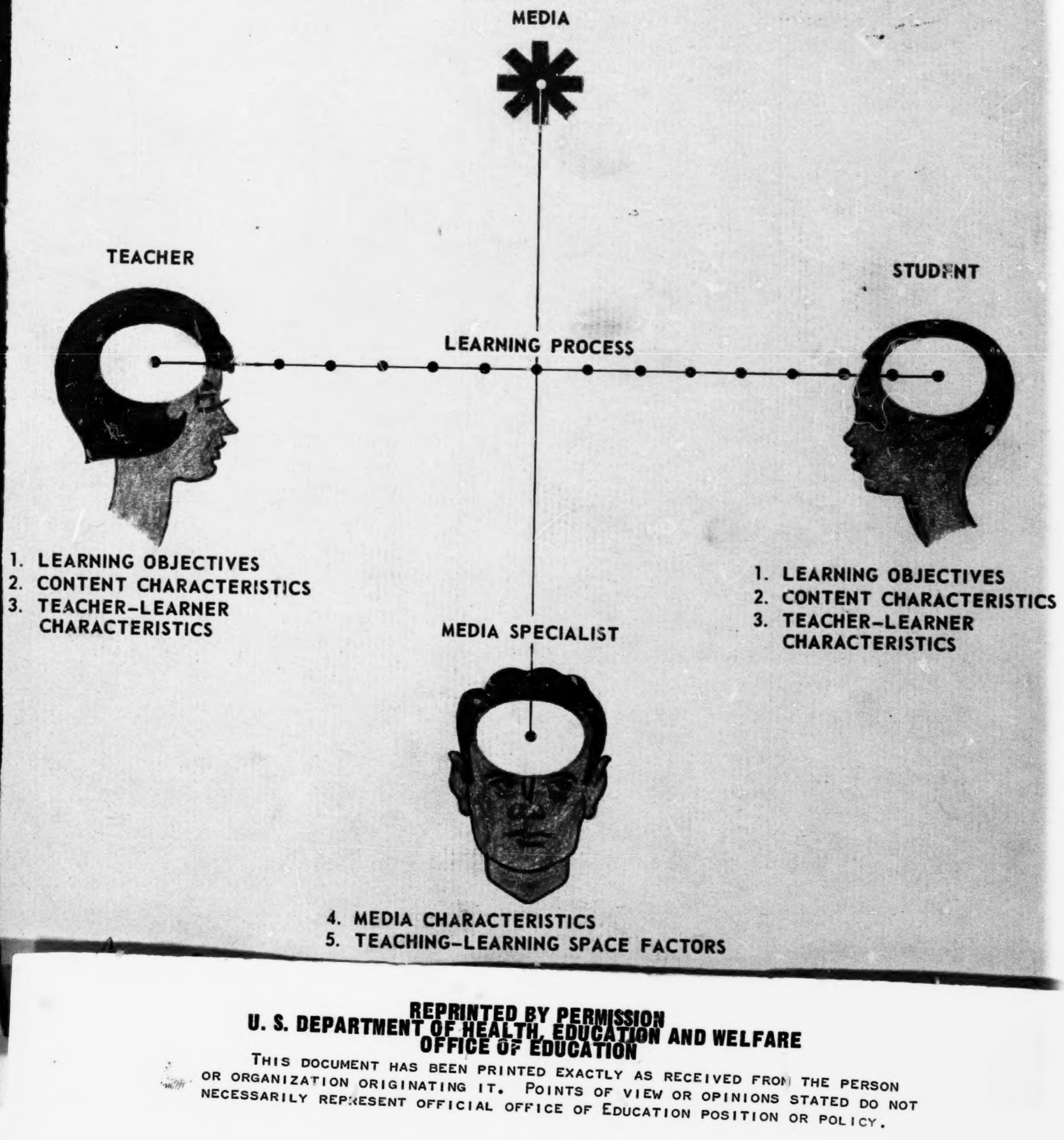
9th Annual Lake Okoboji
Audiovisual Leadership Conference
1963


MEDIA
TEACHER
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MEDIA SPECIALIST
1. LEARNING OBJECTIVES
2. CONTENT CHARACTERISTICS
3. TEACHER-LEARNER CHARACTERISTICS
4. MEDIA CHARACTERISTICS
5. TEACHING-LEARNING SPACE FACTORS

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SUMMARY REPORT

of the

NINTH LAKE OKOBOJI AUDIOVISUAL LEADERSHIP CONFERENCE

Iowa Lakeside Laboratory
Lake Okoboji
Milford, Iowa

August 18-22, 1963

Sponsored by
State University of Iowa
Division of Extension
and University Services
Iowa City, Iowa

and the

Department of Audiovisual Instruction
National Education Association
Washington, D. C.

NOTE: This summary report of the Ninth Annual Lake Okoboji Audiovisual Leadership Conference should be considered as a series of working papers and should be so listed if reproduced in any form.

It should be noted that the papers were prepared after only a few days of deliberation. They were prepared by separate groups with no effort made to polish them or make all of the final reports a cohesive whole. Thus the committees emphasized that there are limitations in the reports in the form of possible omissions, duplications and contradictions. This condition is accepted in light of the fact that the separate groups were more concerned about personal values of exploring the problems associated with the theme of the conference than they were in publishing a final report. This report, therefore, should be regarded as an incomplete outline of the conference proceedings and discussions and nothing more.

NOLOGY - U.S.C.

TABLE OF CONTENTS

Page

Foreword 1

Persons Attending the Ninth Lake Okoboji Audiovisual Leadership Conference 2

Conference Planning Committee 6

First General Assembly. 6
  Keynote Address - Donald Snygg 8

Second General Assembly 13
  Keynote Address - Wesley C. Meierhenry 13

Third General Assembly 32

Fourth General Assembly 34

Fifth General Assembly. 36

Sixth General Assembly. 39

Seventh General Assembly 40

Eighth General Assembly 40

Ninth General Assembly. 41

Final Committee Reports:

  I. Learning Objectives. 42
  II. Content Characteristics 44
  III. Teacher-Learner Characteristics 47
  IV. Media Characteristics. 50
  V. Environment (Physical) 55

Tenth General Assembly 58
  Conference Recommendations. 60
  Press Release 61
  Summary. 62

Pictures. 64

Concerns of Delegates . . . . Appendix A

Excerpt from Charles Hoban's Letter . . . . Appendix B

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FOREWORD

The Ninth Lake Okoboji Audiovisual Leadership Conference has, in my estimation, made a major contribution toward a start in the analysis of "Learning Theory as it Relates to New Media and the Learner". I am sure every delegate who attended went away from the conference with a basic understanding of different "learning theories", and some realization of the problems of evolving a learning theory. Several people have indicated they were disturbed to the extent that they plan to continue the study of the influence of media on the learning process. This conference was only a start, but from this beginning at Okoboji may come future DAVI conferences and workshops to study this problem further.

Having attended this conference for the nine years of its existence, I find it interesting to see the delegates arrive with an attitude of "I want to be shown", and within the first day of the conference begin thinking, "I am not just an observer; I have responsibility as an individual. If there is a change to take place, I must work as a member of a team of delegates to accomplish the objectives". Some of the delegates who have attended Okoboji conferences are surprised that it is possible to operate a conference on such an unstructured basis. However, the large majority of delegates want Okoboji conferences to continue in this informal method of discussion, where their assumption of responsibility for the success of the meeting contributes to their individual growth.

Considerable credit for the success of the Ninth Lake Okoboji Audiovisual Leadership Conference must be given to the two keynote speakers, Dr. Donald Snygg, who spoke on "Learning Theory", and Dr. Wesley C. Meierhenry, who spoke on "Communication Theory". They not only set the stage for the four days of discussion, but also worked with the small committees, helping interpret certain theories and serving as resource people. Their contributions are greatly appreciated.

Lee W. Cochran
State University of Iowa

PERSONS ATTENDING THE
NINTH LAKE OKOBOJI AUDIOVISUAL LEADERSHIP CONFERENCE
August 18-22, 1963

Note: ( ) - The number in parenthesis following the name indicates the previous years this person has attended Okoboji Conferences and special committee assignments, if any.

1. Abeles, Howard R., Coordinator of Audio-Visual Services, Great Neck Junior High School, 77 Polo Road, Great Neck, New York. (62, 63)
2. Allan, William G., Director of Instructional Materials, Richland Public Schools, Administration Building, 615 Snow Avenue, Richland, Washington. (62, 63)
3. Benton, Charles, Vice President, Encyclopaedia Britannica Films, Inc., 1150 Wilmette Avenue, Wilmette, Illinois. (63)
4. Bergeson, Clarence O., Associate Professor of Education, 257 Chambers Building, Pennsylvania State University, University Park, Pennsylvania. (63)
5. Berry, Kenneth R., State University of Iowa, Iowa City, Iowa. (58, 59, 60, 61, 62, 63) (Iowa Committee)
6. Blank, Gordon, Assistant Professor, Indiana State College, Terre Haute, Indiana. (63)
7. Boone, Luke L., Director, Instructional Materials Bureau, 717 West Second Street, Northwest Missouri State College, Maryville, Missouri. (63)
8. Bowman, Harold, Director, Instructional Materials Center, Colorado State College, Greeley, Colorado. (63)
9. Cochran, Lee W., Director, Bureau of Audio-Visual Instruction, Division of Extension and University Services, State University of Iowa, Iowa City, Iowa 52240. (55, 56, 57, 58, 59, 60, 61, 62, 63) (Chairman, Iowa Committee)
10. Cochran, Lida M., College of Education, State University of Iowa, Iowa City, Iowa 52240. (60, 61, 62, 63) (Iowa Committee)
11. Crossman, David, Educational Communication Specialist, New York State Department of Education, Albany 1, New York. (63)
12. Daniels, Glenn, Western Illinois University, Macomb, Illinois. (62, 63) (Iowa Committee)
13. de Morales, Mrs. Lydia Mariani, University of Puerto Rico, Rio Piedras, Puerto Rico. (63)

14. DeVore, William, The Advance Products Company, 2300 E. Douglas Avenue, Wichita 1, Kansas. (63) (Representing NAVA)

15. Dome, John, Director, Audio-Visual Services, Miami University, Oxford, Ohio. (63) (Planning Committee 1963)

16. Feit, Steve, Audio-Visual Consultant, Clearstream Avenue School, District 30, Valley Stream, Long Island, New York. (63)

17. Filep, Robert, Department of Cinema, University of Southern California, University Park, Los Angeles 7, California. (63)

18. Gerlach, Vernon, Assistant Professor of Education, 109 Education, Arizona State University, Tempe, Arizona 85281. (62, 63)

19. Gibbony, Hazel (Miss), Supervisor, Curriculum Materials Center, Ohio State University, 1988 North College Road, Columbus 10, Ohio. (63)

20. Grabow, Wesley J. F., Director, Audiovisual Education, University of Minnesota, Minneapolis, Minnesota. (63)

21. Graybill, Perry B., Audio Visual Educational Specialist, Methods Division, Headquarters, Air University, Maxwell Air Force Base, Alabama. (55, 63)

22. Guerin, David V., Coordinator, Instructional Materials, Garden City Public Schools, Garden City, New York. (63)

23. Hartsell, Horace, Associate Director, Audio-Visual Center, Michigan State University, East Lansing, Michigan. (56, 57, 58, 59, 63)

24. Hawk, Richard, Director, Instructional Materials, Edmonds Public Schools, 3800 196th S. W., Alderwood Manor, Washington. (63)

25. Hedges, John R., Associate Director, Bureau of Audio-Visual Instruction, Division of Extension and University Services, State University of Iowa, Iowa City, Iowa 52240. (55, 56, 57, 58, 59, 60, 61, 62, 63) (Iowa Committee)

26. Hill, Harold E., Vice President, National Association of Educational Broadcasters, 1346 Connecticut Avenue, Washington 6, D. C. (63) (Representing EMC)

27. Holman, Carol (Mrs.), Coordinator, Audio-Visual Center, University of Wichita, Wichita 14, Kansas. (63)

28. Jarvi, Marjorie E., Director of Developmental Reading, Montgomery County Schools, Rockville, Maryland. (63)

29. Kemp, Jerrold, Audiovisual Center, San Jose State College, San Jose, California. (63)

30. Kessler, Clifton, Audio-Visual Consultant, Department of Public Instruction, State Office Building, Des Moines, Iowa. (63) (Iowa Committee)

31. Kinniell, William T., Director of Division of Instructional Media, Texas Education Agency, Austin, Texas. (63)

32. Lake, Leone H. (Mrs.), Audio-Visual Building Coordinator, 8527 Crespi Boulevard, Miami Beach, Florida. (60, 61, 62, 63)

33. Lalime, Arthur, Director, Curriculum Materials Center, Norwalk Public Schools, Norwalk, Connecticut. (63)

34. Little, David, Graduate Student, State University of Iowa, Iowa City, Iowa. (63)

35. Lunn, Mervel S., Director, Teaching Materials Center, Oklahoma City Schools, Oklahoma City, Oklahoma. (63)

36. McIntyre, Kenneth, Bureau of Audio-Visual Education, University of North Carolina, Chapel Hill, North Carolina. (56, 63)

37. Meierhenry, Wesley C., Assistant Dean, Teachers College, University of Nebraska, Lincoln 8, Nebraska. (55, 59, 62, 63) (Planning Committee 1963) (Keynote speaker 1963)

38. Nibeck, Richard, Department of Audiovisual Instruction, National Education Association, 1201 16th Street, N. W., Washington 36, D. C. (63) (Representing DAVI)

39. Paulu, Burton, % Station KUOM, Eddy Hall, University of Minnesota, Minneapolis, Minnesota. (63) (Representing NAEB)

40. Phillips, Murray G., Associate Professor, School of Education, Hofstra University, Hempstead, Long Island, New York. (60, 61, 62, 63) (Chairman, Planning Committee 1963)

41. Preseren, Herman J., Assistant Professor of Education, Wake Forest College, Box 7266, Winston-Salem, North Carolina. (63)

42. Ramsey, Curtis P., George Peabody College for Teachers, Nashville, Tennessee. (62, 63) (Planning Committee 1963)

43. Rasmusen, Viggo B., Audio-Visual Director, Wisconsin State College, LaCrosse, Wisconsin. (63)

44. Richmond, Howard R., City Coordinator of Instructional Materials, Asbury Park Public Schools, High School Building, Asbury Park, New Jersey. (63)

45. Sager, W. E., Ontario College of Education, University of Toronto, 371 Bloor Street W., Toronto 5, Canada. (63)

46. Sexson, James E., Assistant Director, Audio-Visual, Southern Illinois University, Carbondale, Illinois. (63)

47. Sherman, Mendel, Assistant Director, Audio-Visual Center, Indiana University, Bloomington, Indiana. (57, 61, 62, 63) (President Elect DAVI)

48. Simonson, LeRoy D., President, Audio-Visual Education Association of Iowa, 5 North 16th Street, Fort Dodge, Iowa. (61, 62, 63) (Iowa Committee)

49. Slagle, Allison, Director, Audio-Visual Center, University of Chattanooga, Chattanooga, Tennessee. (63)

50. Snygg, Donald, Psychology Department, New York State College, Oswego, New York. (63) (Keynote speaker - 1963)

51. Thompson, Dixie (Mrs.), Director, Instructional Materials, Osborn Elementary Schools, 1226 West Osborn Road, Phoenix, Arizona. (63)

52. Torkelson, Gerald, U. S. Office of Education, Educational Media Branch, Washington 25, D. C. (61, 63) (Representing U. S. Office of Education)

53. Twyford, Loran, State Education Department, University of the State of New York, Albany 1, New York. (60, 61, 63) (Planning Committee 1963)

54. Uhl, Ronald, Supervisor, Audio-Visual Materials Center, Prince George's County Board of Education, 4600 Varnum Street, Bladensburg, Maryland. (63)

55. Veenendaal, Wilfred, Audio-Visual Center, Michigan State University, East Lansing, Michigan. (63)

56. Vergis, John P., Arizona State University, Tempe, Arizona. (60, 63)

57. Wedberg, Desmond, American Association of Colleges for Teacher Education, 1201 Sixteenth Street, N. W., Washington 6, D. C. (63) (Representing AACTE)

58. Wiman, Raymond V., College of Education, State University of Iowa, Iowa City, Iowa 52240. (59, 61, 62, 63) (Iowa Committee)

CONFERENCE PLANNING COMMITTEE FOR 1963

The following persons were appointed by President Clyde Miller, of DAVI, to serve on the Planning Committee for the Ninth Lake Okoboji Audiovisual Leadership Conference:

Murray G. Phillips - Chairman
John Dome
Wesley Meierhenry
Curtis P. Ramsey
Loran Twyford
Paul Witt

Through recommendations coming from the 1962 Okoboji Conference group, and correspondence of the committee, the Planning Committee selected the theme for the 1963 Okoboji Conference as "Learning Theory as it Relates to New Media and the Learner". The committee met during the 1963 DAVI Convention in Denver, Colorado, to select keynote speakers and complete the conference plans. A final Planning Committee meeting was held on August 17, 1963, just prior to the conference. Considerable credit for the success of the Ninth Lake Okoboji Audiovisual Leadership Conference is due to the months of planning by this committee.

A group of staff members from the State University of Iowa compose the Iowa Committee for the Okoboji Conferences each year. The Iowa Committee carry out the directives of the Planning Committee, and make all local arrangements for the conference.

* * * * * *

FIRST GENERAL ASSEMBLY

Sunday, August 18
1:30 p.m.
Presiding: Murray Phillips, Chairman, Okoboji Planning Committee

1. The opening session was called to order by Chairman of the Planning Committee, Murray G. Phillips.

2. The meeting was opened by introduction of all delegates. Chairman Phillips introduced Lee W. Cochran, who in turn introduced Robert F. Ray, Dean, Division of Extension and University Services, State University of Iowa. Dean Ray gave the official welcome to the Iowa Lakeside Laboratory, operated by the State University of Iowa.

3. Lee W. Cochran gave a brief history of the Okoboji Conferences which started in 1955.

4. Chairman Phillips then outlined the conference structure as to chairmen and committees.

(First General Assembly - Continued)

5. MOVED by Leone Lake, seconded by Perry Graybill that the conference Planning Committee serve as Nominating Committee. The meeting was declared adjourned by Chairman Phillips while the Nominating Committee met at 2:20 p. m.

6. The meeting was called back to order by Chairman Phillips at 2:35 p. m. at which time the nominees were presented as follows: Vernon Gerlach, Perry Graybill, Curtis Ramsey, and Loran Twyford. Motion was made and carried that nominations cease. Election results were as follows:

   Vernon Gerlach) Co-Chairmen
   Loran Twyford)

   Murray Phillips presented the Okoboji gavel to the co-chairmen.

7. Conference committees were announced by temporary chairman, Murray Phillips as follows:

   Conference Summarizer - Curtis Ramsey

   Social Committee - Leone Lake, Chairman
   Gordon Blank
   John Hedges
   Clifton Kessler
   David Little
   Richard Nibeck

   Rest Committee - Mendel Sherman

   (Raymond Wiman presented Mendel Sherman with the special "Rest Chairman" gavel.)

   Recorders - Glenn Daniels
   LeRoy Simonson

   Press Committee - Harold Hill, Chairman
   Charles Benton
   John Dome

   Resolutions Committee - William Allan, Chairman
   Kenneth McIntyre
   Richard Nibeck

   Future Conference Topics - Horace Hartsell, Chairman
   Mendel Sherman

(First General Assembly - Continued)

Conference Advisory Committee -	Conference Planning Committee
Election Committee -	Kenneth Berry John Hedges LeRoy Simonson
Conference Visualizer -	Jerrold Kemp Wilfred Veenendaal
Newsletter Committee -	Leone Lake, Editor-in-chief Gordon Blank David Little Richard Nibeck
Story Telling -	Harold Hill

8. After a brief recess, the meeting was called back to order by Co-Chairman, Loran Twyford. The topic "Learning Theory as it Relates to New Media and the Learner" was introduced and discussed with reference to procedures.

9. Co-Chairman Twyford called on Lee W. Cochran to discuss the acceptance of last year's conference report. Mr. Cochran indicated the report has been well accepted and that he has received requests for copies from all over the United States and seven foreign countries. He will consider a reprint if the demand continues.

10. Co-Chairman Twyford introduced one of the conference keynoters, Dr. Donald Snygg, Psychology Department, University of New York College, Oswego, New York. His topic was "Learning Theory":

THERE ARE TWO KINDS OF LEARNING THEORY

by Donald Snygg

In a rapidly changing society like our own the schools are constantly required to make revolutionary changes in the goals of instruction and, consequently, in the subject matter and methods. Teachers can no longer teach what they have been taught. They must become true professionals, that is workers who are equipped with a body of theory by which they can anticipate the results of new and old practices in situations no one has as yet experienced and plan their behavior accordingly.

Planning for learning necessarily requires the use of a theory of learning. Unfortunately, educational planners, including the classroom teachers, consistently use outmoded and unreliable concepts and theories of learning, mistaking them for common sense and manifest truth. Fundamentally these are the folk beliefs they learned as children and now accept as "common sense". In the field of education these folk ideas are expressed in the vocabulary of the Functionalist psychology that was current between 1910 and 1920. This has resulted in an almost unshakable bind which prevents us from moving ahead with either our theory or our practice. These pre-1920 concepts were used to justify the educational practices of that time, that is of almost everything we still do in schools. Now the 1910 concept of learning survives because the 1910 practices survive and vice-versa. A teacher who doubted the validity of these common-sense "causes" of learning would have to doubt the usefulness of most of his classroom practices and his own worth as a teacher. Therefore, to the extent that current psychological theories of learning differ from this early twentieth century "common-sense" they are viewed by teachers as intellectual exercises which are studied for examination purposes only, having nothing to do with reality.

But in the face of the social and educational problems now confronting us it seems foolhardy to base our decisions on learning theories that are fifty years out of date.

Why is common sense an inadequate guide for teachers?

In the first place it is inadequate because the vein has been worked out. About all the new ideas that can be extracted from these concepts were extracted generations ago. This is probably the reason why, of all the professions, teaching has made the fewest changes in the last fifty years. Second: most of what passes for common sense about learning is demonstrably false and has been disproved in the laboratories.

The folk-lore of learning, in the Upstate New York area at least, postulates two independent causes of learning. They are:

(1) Frequency (or repetition)
(2) Reward and punishment

Dunlap (Dunlap, Knight,"Habits, Their Making and Unmaking", 1929) demonstrated that it is possible to break bad habits by practicing them. Repetition can still be conceived as giving an opportunity for learning but it can no longer be thought of as causing it. Reward and punishment have turned out to be equally unreliable. Large rewards and heavy punishments, for instance, have been found to interfere with learning.

The first scientific attempt to develop a theory of learning began with Ebbinghaus in the 1880's. The resultant S-R conceptual pattern has stimulated most of the academic thought and research on learning since that time but it is now showing signs of having reached its limits. This point of view considers that learning occurs when a response is connected to a stimulus. S-R theory, except in the form of the Thorndike word lists and the early Skinner machines, has contributed little to educational practice because it has added little to commonsense. The S-R teacher uses repetition, reward, and punishment just like the teacher who never took a psychology course. Today the teacher using S-R theory is expected to use "reinforcement" instead of the unrealiable "reward and punishment" but she is handicapped because "reinforcement" is simply defined as whatever increases the probability of a given stimulus being followed by the same response. This definition saves the theory but makes it useless for education because since the only way to identify a reinforcing act is by its results, is not able to predict what will be reinforcing any better than she had been in 1910, when she believed in reward and punishment.

Actually, if we make the situation simple enough and use subjects that are both tame and hungry, food will be rewarding. The trouble is that school children have a great many problems and we are not allowed to starve them into a receptive state of mind.

At one time it was thought that reinforcement could be equated with reduction of tissue need but experiments showing that rats learned as well when reinforced with saccharine as with sugar caused this idea to be dropped and the problem of what causes reinforcement remains open.

As a basis for educational practice S-R theory has a basic and, I believe, a fatal defect. It is designed only as a guide for getting the learner to repeat an act he has already performed. As a theory it completely disregards the much more important problem of helping him to make the desired response in the first place.

S-R theory is particularly unsuited to the needs of audio-visual education because it assumes that all learning requires the learner to make a response. The reasoning is that if he doesn't make a response it cannot be reinforced and if it isn't reinforced it will not be learned. If this were literally true most of our films, tapes, T-V, radio, charts, graphs and display materials would go out the window; nothing would be left but the language lab and the learning machines.

Where did S-R run into trouble? I think it has failed because the S-R theorists have tried to work within the limits of the physical sciences, to count only those aspects of phenomena which can be objectively measured, i. e., can be reduced to units of length. In such a system reward and punishment had no place because they are subjective entities, relative to the perceptual field of the person who receives them. A reward for one person is a punishment for another.

S-R psychology has monopolized the field of learning for fifty years and, as teachers, we are no better off than we were when it took over. What is the alternative? We can no more use a mixed objective-phenomenological system than astronomers could use a mixed earth centered-heliocentric system. Our only course is to try a completely phenomenological system. If it does not give us the whole truth it will at least give us some new insights and lead to some new practices.

1. BASIC POSTULATE: Behavior is always appropriate to the behaver's phenomenal field at the instant of action. (The phenomenal field is his perception of the universe at that instant.)

2. Learning is, then, a change in the phenomenal field in the direction of increased correspondence to reality.

3. The phenomenal field is organized.

   Example: trapezoidal window.

   a. External events are perceived in such a way as to require the least change in the field. (Material presented must be tailored to fit the student's perception of reality.)

   b. Figure-ground character of organization. It is not enough to present stimuli. The individual is constantly surrounded by thousands of stimuli. The ones assimilated are those which give (or maintain) organization (meaning) with the least change in his perceptual field.

   c. Any external object or event is differentiated only as far as necessary to give meaning. Importance of conceptual models. Examples: Aztecs. Effect of candle concept of problem solving. An important function of audio-visual education is to provide models for classifying new experiences. Words are not enough because they depend on previous models and therefore lack precision. Example: Girl from India who saw snow as swarm of insects. Words and pictures of snow crystals had given her inadequate model of snow.

Can learning be passive. The phenomenal field is always in a process of needing better organization because of signals from outside, of physiological changes within the organism, and because of the fact that the future aspects of the field are always in need of further organization. However, what contributes to organization, particularly to feeling of personal belonging and one-ness with the rest of the universe will not only be accepted but actively sought. Information which does not contribute to organization fails to enter field or it is distorted until it fits. Information which fits the learner's personal view and understandings does not, however, require activity or conformation.

4. The general pattern for learning new acts is:

   a. The learner becomes aware of a need or a goal whose achievement will enable him to satisfy the need. (Goal)

   b. The existence of an obstacle makes it necessary for him to perceive the situation. (Interpretation$_1$)

   c. He attacks the problem in terms of his perception of the situation. (Act$_1$)

   d. This act has consequences. If the result is the achievement of the goal the process is complete. If the result is not the one sought and expected. (Result$_1$)

   e. A reinterpretation of the situation takes place. (Interpretation$_2$)

   f. The second attack (Act$_2$) is appropriate to the new interpretation.

   The process continues until the learner reaches his goal or perceives another goal as a more practical way of satisfying his need.

This concept deposes both practice and reinforcement as "causes" of learning. Each repetition of a problem gives the learner another opportunity to gain a more accurate perception of the situation but does not guarantee that he will either wish or be able to take advantage of the opportunity. "Reinforcement" is not needed to establish the successful response. The learner simply stops reinterpreting the situation as soon as he has reached his goal.

The practical implications of this view of learning for audio-visual education are quite numerous and there is not time to go into them in detail. I do believe that it offers a greater place for audio-visual materials and more possibilities for inspiring new practices than the S-R approach which has been with us so long.

* * * *

11. The First General Assembly adjourned at 5:00 p. m.

SECOND GENERAL ASSEMBLY

Sunday, August 18
7:30 p. m.
Presiding: Vernon Gerlach

1. W. E. Sager, Ontario College of Education, University of Toronto, Toronto 5, Canada, was introduced.

2. Co-Chairman Gerlach introduced the second keynote speaker of the conference, Dr. Wesley C. Meierhenry, Assistant Dean, Teachers College, University of Nebraska, Lincoln, Nebraska.

PSYCHOLOGICAL THEORIES and INSTRUCTIONAL TECHNOLOGY

by Wesley C. Meierhenry

(Supplementary Remarks)

There are several points which I would like to make as background for your interpretation of the paper which follows. The first grows out of the fact that in the field of education, we've had great difficulty in making direct application of theory to practical classroom situations. As one examines business and industry, on the other hand, it becomes evident that they have researchers work in laboratory settings to tease out and develop certain fundamental facts and principles which grow out of their laboratory research. Even within the same plant, these basic researchers are often isolated from other individuals who work in research and development. The people in product development generally have different capacities and abilities which consist of taking the basic research results and putting them into new structures and new settings and discovering what practical applications if any can be made of findings of the basic researchers. These people, then, who work in applied research and the development side of the operation, have the responsibility of developing new products or new applications of old products.

At the same time as new products are being developed, field studies are underway by the sales force and other similar people to discover whether there will be a market for the new product; after the product is developed these implementers conduct certain kinds of field studies and investigations with the products after which the results come back into the plant and the products are refined further by the people in the research and development branch.

Similar activities are also carried on by the military, and by almost every other technical and scientific sphere of life today, but it is the contention of many people that we have not had a similar kind of process in the field of education. Prof. Colley, Stanford University, has coined three words for use in education which are very similar to the persons in basic research, development, and field studies. He labels the first of these individuals, the basic researcher, as the "logodemic man" who is a scout on the frontiers of knowledge concerned with discovering the new fragments of truth and adding them to the world's stockpile of knowledge.

At the other end of the scale is the "practidemic" man. This is the classroom teacher, the person who is in daily, face to face contact with learners, and who is faced with minute by minute decisions about instructional problems. We are beginning to develop a middle person, the "pandemic" man whose responsibility it is to begin to extrapolate some of the principles which come from the basic human behavior laboratoies around the country in such areas as learning, sociological, and anthropological theories. The task of these individuals is to translate the theories into general principles so that they may be tried out in general school settings involving classroom teachers and practitioners.

My role in this whole field is somewhat, I hope, of the "pandemic" man. I am not a theoretician but have been in touch with the field of learning and psychological theories. My own academic background includes a good deal of work in the field of psychology along with considerable experience as a public school and college classroom teacher as well as continued observations of public school classrooms.

It seems to me that there is need to identify the various theoretical positions and to attempt to extract from these theories certain kinds of relevant statements and principles which we could experiment with in classroom situations to see if we might develop more discriminating guides to instructional practices and the development of instructional materials.

As I have examined the various psychological theories, it is evident that there are two major theoretical positions, the connectionist and the cognitive. Efforts have been made to more and more merge these two into one common model. In the paper which follows I have attempted some synthesis of these two models into a general model and to demonstrate that the theoretical positions are more alike than they are different, although not all positions are compatable with each other. Deese, who assisted me on the special issue of the "Audiovisual Communication Review", called attention in his final chapter that the differences were less pronounced and the similarities were much greater than he had expected. Since that time other individuals also have called attention to the fact that it makes just good sense that attempts should be made, if not to merge the various positions, of at least determining if there were not common elements and then to identify these elements and state them operationally so that we might begin to experiment with them in classroom situations.

Thus the first purpose of the paper is to specify the theories as they come from the writings of various theoreticians including many quotations from them. Second, to indicate in a general way the implications of each theory for instruction, for teaching techniques, and for the development of teaching materials. Third, to consider under a section of "General considerations and statements", the principles that seem to come out of these various theoretical positions which might serve as guides for instructional decision making.

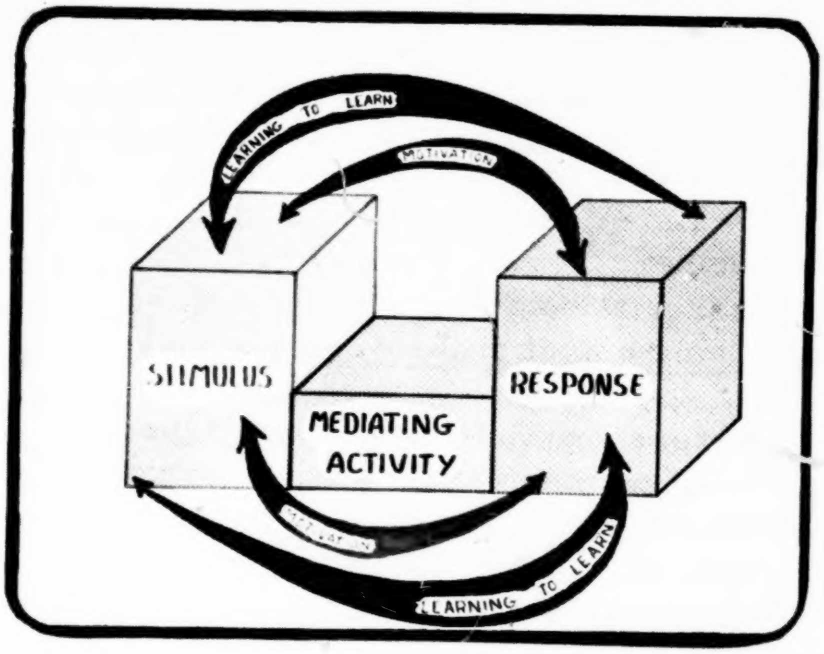
These general statements come not only from various people quoted in the paper, but from an intensive study of a number of other reports which have been written, including the work of such people as Hilgard, the deliberations of the Woods Hole Conference and the Northwestern University Symposium. Each of the last two conferences were devoted meetings of theoretical psychologist in an attempt to arrive at some common principles related to instruction which seem to come out of the different theories. The final section of the paper, therefore, includes principles which need to be considered further in classrooms and suggestions for the development of various kinds of experimental materials which might be used in these classroom situations.

(End - Supplementary Remarks)

PSYCHOLOGICAL THEORIES and INSTRUCTIONAL TECHNOLOGY

by Wesley C. Meierhenry

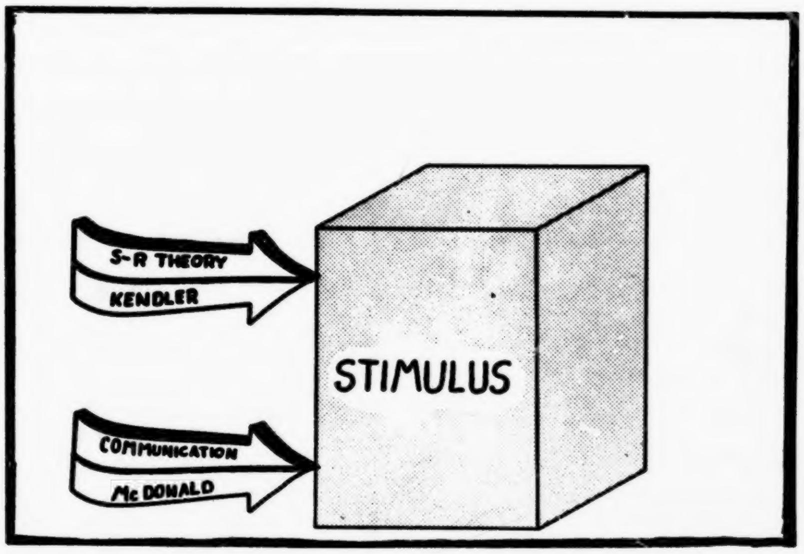
The writer proposes to identify a learning model to which will be related the speculations of a number of learning and perception theories. The writer's contention is that, directly or indirectly, all learning theories recognize the general model which is proposed and that many of the major differences in these various theories lie in those parts of the model to which each theorist gives *emphasis*. The rather simple and general model of stimuli,[1] mediating activities, and response is proposed.[2] An attempt will be made also to show that there are certain general forces (such as motivation and direction on how to learn) which are recognized to a greater or lesser degree which have implications for the entire learning model.



Stimuli

S-R Theory takes into account all three aspects of the model just identified. Kendler recognizes all aspects when he says:

> The essence of the stimulus-response language is contained in the S-R paradigm, which functions as a model of behavior. Accordingly, there are three important sets of variables in psychology; stimuli, responses, and the association (the-) between them. (1)



Although Kendler recognizes three major aspects to the learning process, a careful reading of what he has to say leads to the conclusion that he considers the stimulus to be the key part of the process.

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[1] The background materials come from AudioVisual Communication Review, edited by Wesley C. Meierhenry, "Learning Theory and AV Utilization", September-October, 1961, supplement 4, Vol. 9, No. 5. This publication includes authoritative papers by the following individuals who accept theories as listed: Abraham S. Luchins, Gestalt; Howard H. Kendler, S-R; Robert Glaser, Behaviorism; Frederick J. McDonald, Motivation; and Leo Postman, Associationism; James Deese; also AVCR perception issue, AudioVisual Communication Review, November-December 1962, Vol. 10, No. 6.

[2] A recent article by C. R. Carpenter in November-December 1962 issue of AV Communication Review proposes the following model: "The basic symbols are S-R. This reflex-based set of symbols needs to have an additional component. Let us add 0 and then the expression is:

S-O-R

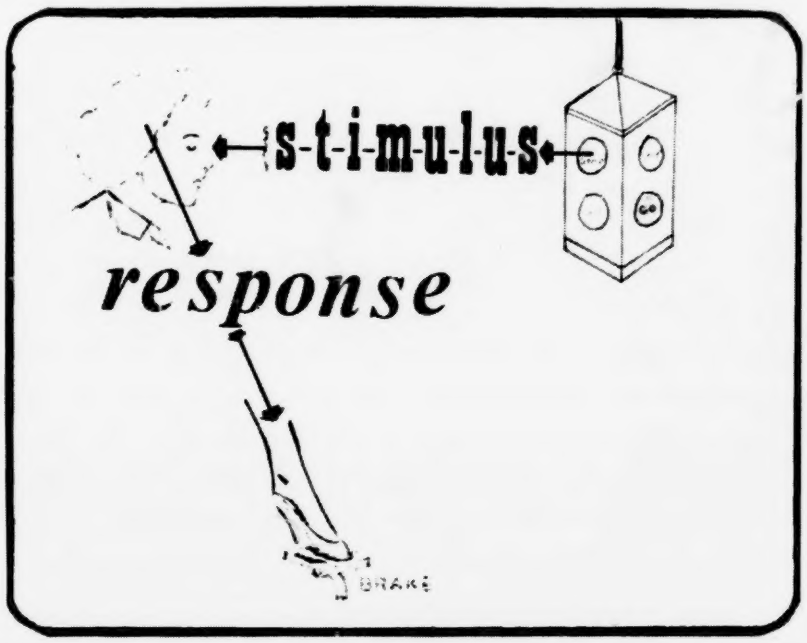
where S = stimulus or situation
O = organism or person
R = response or behavior

These symbols are the abc's of all learning theories, but--like the alphabet, when elaborated--they can be changed, analyzed, and combined into a language about learning which is theory." p. 297

> Stimulus-response language directs our attention to the important variables of learning . . . This simple formula, when translated into the methodology of conditioning, means that the organism must make the correct responses when the appropriate stimulus occurs and when the necessary conditions for associative learning are available. These conditions are easily arranged for in the conditioning laboratory where the experimenter can control the occurrence of all three essential factors: the stimulus, response, and the reinforcement. (2)

And still further

> Once the characteristics of the to-be-learned response are specified, the task becomes one of getting the student to make it, explicitly or implicitly, in the presence of the appropriate stimulus. . . . First, as stated previously, the response must in some way, partially or completely, be practiced. This problem will be returned to very soon, but it should be mentioned now that it is this requisite, which taxes the ingenuity of the audiovisual educator to the limit. Second, to complete the learning sequence, the student must be reinforced for making the correct response to the appropriate stimulus. It is this writer's opinion that the difficulty of this problem has been greatly exaggerated. This view does not minimize the importance of what is commonly referred to as motivation and reward, for these factors are often necessary to get the student to pay attention to the audiovisual training sequence. But if the sequence if successful in presenting the appropriate stimulus and instigating the correct response, learning will more than likely take place. (3)

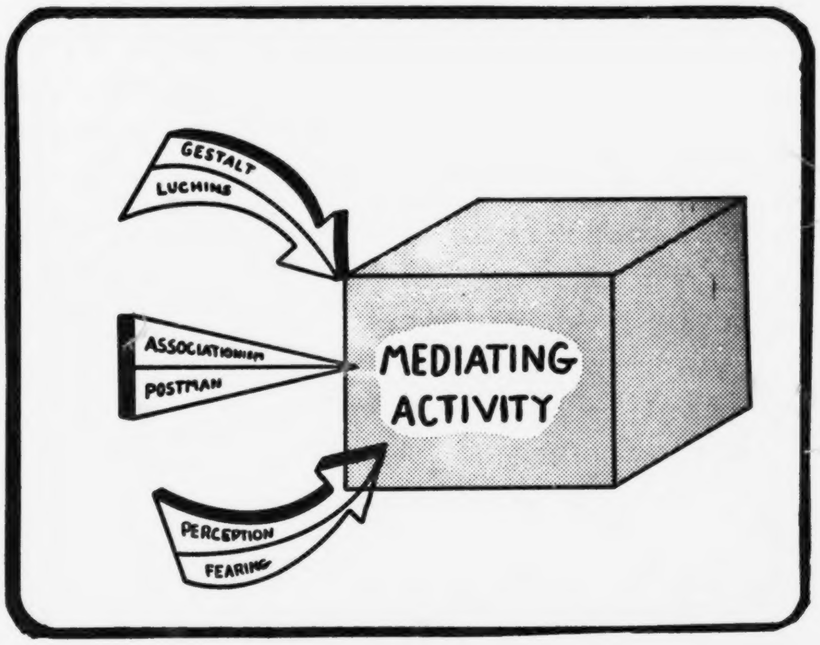


Although somewhat less precisely stated, McDonald also seems to imply that the major factor in communication is the message or stimulus. He says:

> A communicative act may be defined as any observable behavior by which information is transmitted from an information source to a human recipient. This definition implies that the human object of the communication "receives" the message in the sense that he is at least aware of it. (4)

The above mentioned theorists consider the stimulus phase to be most significant. This same position is also taken by a teacher who feels that it is his task to make the content known to the student, but that it is the student's responsibility to interpret and master the material.[3] Further, many of the instructional materials make the greatest contribution at this point, because they are designed to gain attention and to stimulate the learner to become aware of appropriate signs and cues, but frequently accomplish little more without either student or instructor activity, or both.

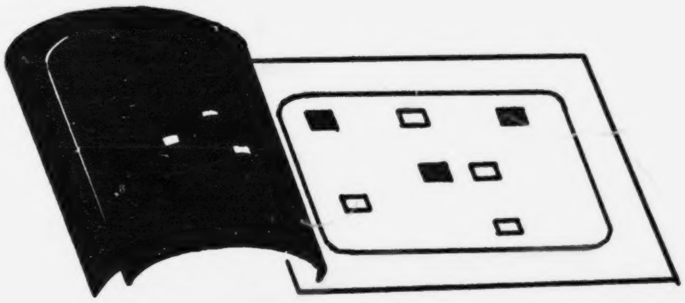
Mediating Activities (Associations)

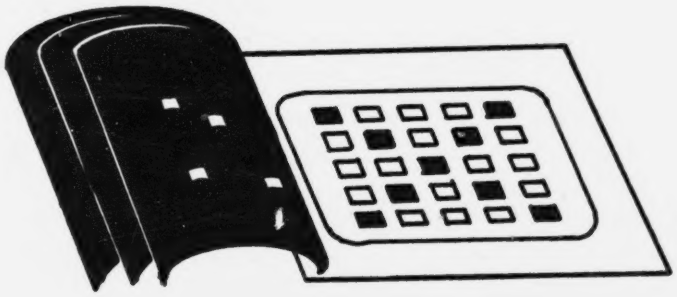


The Gestalt theory of learning gives almost exclusive reference to the process through which the learner goes as he integrates the stimuli so that he is able to respond.

Luchins has this to say:

> Gestalt psychology suggests not so much *what* pupils should learn *but how* they should learn. It is concerned not only with responses, but also with the processes that lead to responses. The same responses may be brought about by different processes; different responses may be brought about by the same process. In particular, the same overt responses may result from a process of understanding involving organization and insight into structure as from a process of memorization in which stimulus and response are arbitrarily connected. . . (5)





Luchins also deals with the very important matter that audio-visual devices might assist in the structuring of the content:

> Admittedly, the educational process is directed to develop certain knowledge and skills. To the extent that

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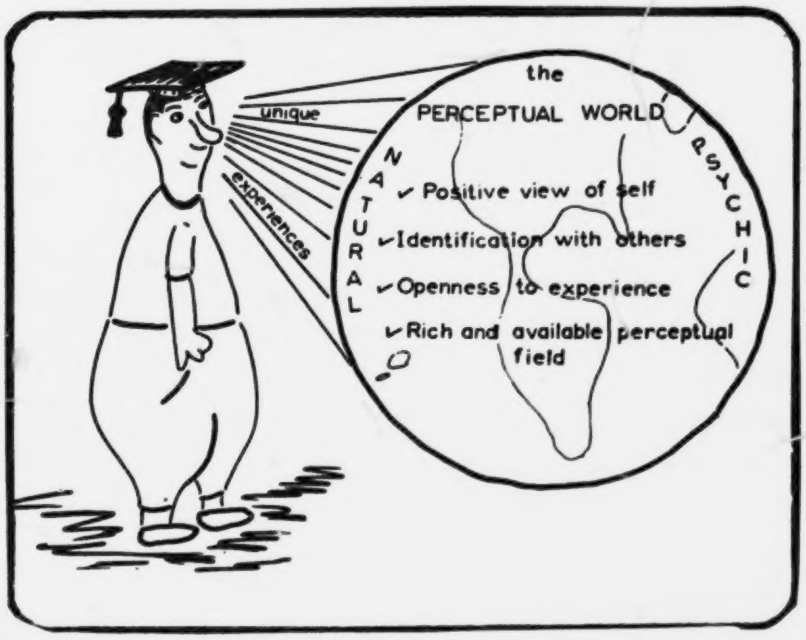
[3] Stanley, Julian C., Weekly Newsletter of the Laboratory of Experimental Design, University of Wisconsin, Madison 6, Wisconsin, Vol. 1, No. 14,

> audiovisual devices help achieve this goal, they may be regarded as intrinsic to it. To the extent that the device is intended primarily to arouse interest, or to entertain or reward the pupil, it may be regarded as extrinsic to the goal. Moreover, to the extent that the device is based on the structural features of the subject matter, it may be regarded as intrinsic; to the extent that it is unrelated to--or only peripherally related to--the subject of the lesson, it may be regarded as extrinsic.
>
> It is important that audiovisual devices should not become merely a means of entertainment, of developing superficial familiarity with the subject matter, or of making learning a passive activity. They can be vital instruments to elucidate and clarify ideas and concepts, and to bring about a search for insight into structural relationships of the concepts and skills being taught.(6)

It should be noted that many of the specialists in the field of perception are among those who feel that the mediating and structuring aspects of learning are the most significant. The late Franklin Fearing wrote:



> . . . The point of these observations is that responses to stimuli in communication situations are not automatic and mechanical, but are dependent on the totality of cultural and personality factors which each respondent brings to the situation.
>
> This last point is significant for a theory of communication because it makes untenable the widely held notion that communication is merely a transmission system. That conception, which is stated in many forms, implies that the communication process consists in the simple transmission of "ideas," "information" or some other unit of meaning from the communicator to the communicatee and that it is received intact. Or if it has not been received intact, it is said to have been affected by some sort of interference which resulted in distortion. In other words, the transmission belt-theory of communication in its simplest form assumes a simple, linear, one-directional relationship between the

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January 10, 1962 - "At the graduate level, the persons whose courses you take are properly termed professors, not teachers or instructors. It is primarily your job to learn from them, not their responsibility to teach, instruct, or 'train' you."

> communicator and the communicatee, subject only to intereferences or disturbances analogous to those mechanical imperfections that would disturb or distort communication over a telephone system. There is an imposing array of research findings, mainly in the field of psychology of perception, which makes such a mechanical conception of communication unacceptable. . . . (7)

Two other theorists and researchers in perception are Toch and Maclean who spell out in greater detail what they consider to be pertinent aspects of the transactional view of perception. They tell a story as cited by Cantril about three umpires swapping views about their professional function.

> The first umpire said, 'Some's balls and some's strikes and I calls 'em as they is.' The second umpire said, 'Some's balls and some's strikes and I calls 'em as I sees 'em. While the third umpire said, 'Some's balls and some's strikes but they ain't nothin' till I calls 'em.' (8)
>
> This story nicely illustrates the basic characteristics of the transactional view of perception, which may be summarized as follows: Each percept, from the simplest to the most complex, is the product of a creative act. The raw material for this creation is lost to us since in the very act of creating, we modify it. We can never encounter a stimulus before some meaning has been assigned to it by some perceiver. Moreover the perceiver himself becomes available to us only when he has entered into this task and has been modified in the process.
>
> Both of these statements hold true because meanings are given to things in terms of all prior experience the person has accumulated. Therefore, each perception is the beneficiary of all previous perceptions; in turn, each new perception leaves its mark on the common pool. A percept is thus a link between the past which gives it its meaning and the future which it helps to interpret. (9)

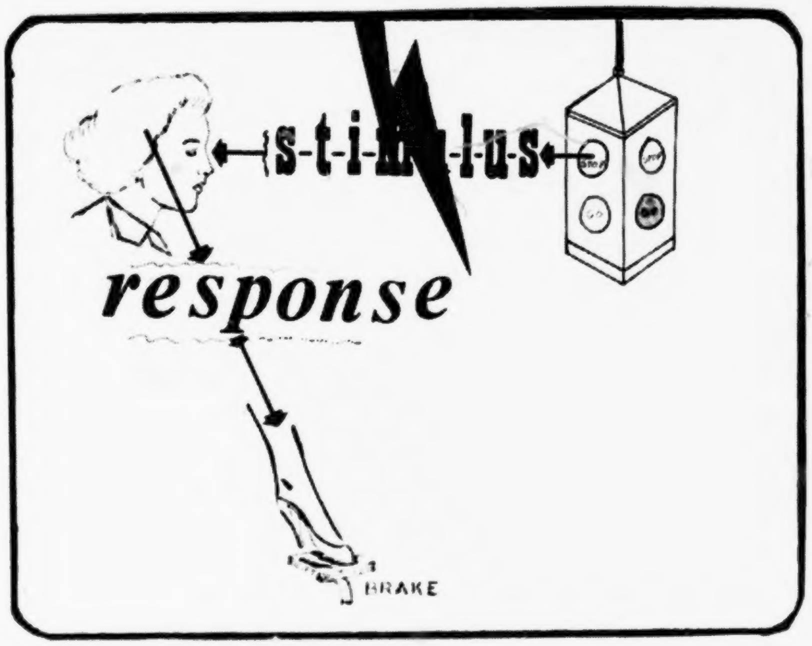
The writer believes that the concept of structuring subject matter is related to that to which Bruner refers in THE PROCESS OF EDUCATION:

> Grasping the structure of a subject is understanding it in a way that permits many other things to be related to it meaningfully. To learn structure, in short, is to learn how things are related. The often unconscious nature of learning structures is perhaps best illustrated in learning one's native language. Having grasped the subtle structure of a sentence, the child very rapidly learns to generate many other sentences based on this model though different in content from the original sentence learned. And having mastered the rules for transforming sentences without altering their meaning--"The dog bit the man" and "The man was bitten by the dog" --the child is able to vary his sentences much more widely. Yet, while young children are able to use the structural rules of English, they are certainly not able to say what the rules are. (10)

(Second General Assembly - Continued)

In structuring the content by audiovisual materials functioning as mediating devices, Luchins calls attention to the possibility that interference may take place.

> Interference may occur because the organization of the material in the audiovisual device is contrastructural to the natural organization of subject matter as a whole, or to the structure of the particular concept or procedure being taught. Interference may occur when the relation of the audiovisual device of the teaching-learning process is akin to the relationships of irrelevant jokes in a speech. . .



> Interference may result from attempts to make the subject more meaningful through the introduction of meanings that are extrinsic to the subject matter's inherent structure. For example, a well-known educational film anthropomorphized various heavenly bodies and cosmic rays. A child with some understanding of science may grasp the mystery and excitement that underlies cosmic phenomena in the film. But other children may come away with a belief that the cosmos is inhabited by "little Fagins," the Dicksonian film character that portrayed cosmic rays. Similarly, a book on mathematics that introduced trigonometric functions as Mister Sine, Mister Cosine, etc., may be amusing and even helpful to someone who has some previous understanding of trigonometry, but quite confusing to one who lacks it. (11)

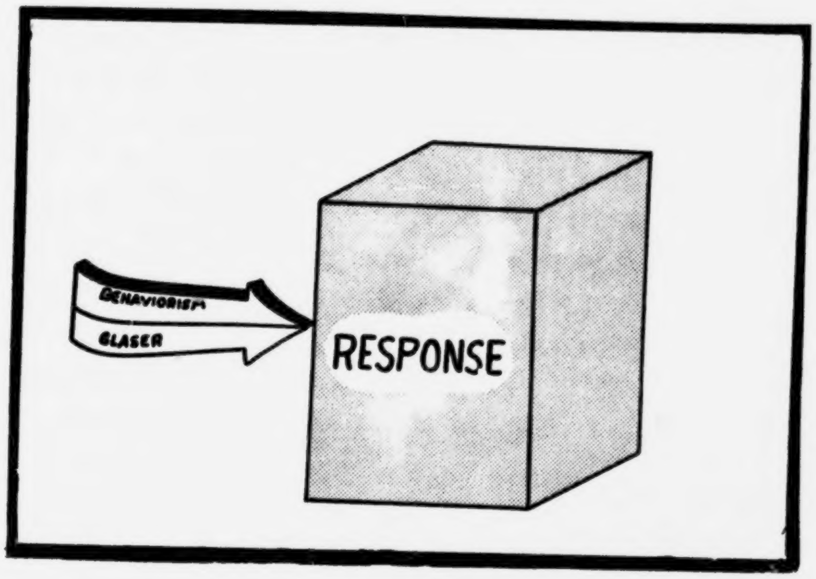
One of the major contributions made by Postman is his clear discussions of interference. Although interference may become evident at the stimulus stage of learning, it is actually more nearly related to the mediating activity as well as the response stage. Consider, for example, the following:

> One theoretical position which is strongly supported by extensive experimental evidence--the interference theory--considers forgetting as a special case of negative transfer. That is, forgetting is not simply a matter of passage of time. A habit is forgotten when other habits learned earlier or later successfully compete with it and thus interfere with its performance. The conditions which produce negative transfer in acquisition--similar stimuli and incompatible responses--are also conducive to response competition in recall, and hence to retention loss.

> When habits acquired earlier interfere with the retention of a given task, we call that interference proactive inhibition. Retroactive inhibition occurs when the interference is produced by new learning which occurs between the end of practice on a given task and the test of retention. . .
>
> The habits the individual has established before he comes to the laboratory or the classroom are likely to be more numerous and stronger than those he acquires between the end of training, and the time of recall. . . The more we can build on well-established habits in the mastery of new tasks, the better are the prospects for the long-term retention of these new tasks. (12)

Response

Glaser, one of the leaders in programed instruction technology, very quickly identifies his major concern as that of the response phase of the model.



> Response is the primary object of manipulation in instructional technology. Because the operations of instruction should result in definable changes in student response, they are designed to bring the responses under the control of the desired subject matter stimuli. In this respect, the lesson to be learned from the experimental psychologist is a methodological one. To be appropriately developed, the learner's responses should be operationally (behaviorally) specified in so far as possible, just as the task to be learned in the laboratory is carefully specified by the experimental psychologist. . . (13)

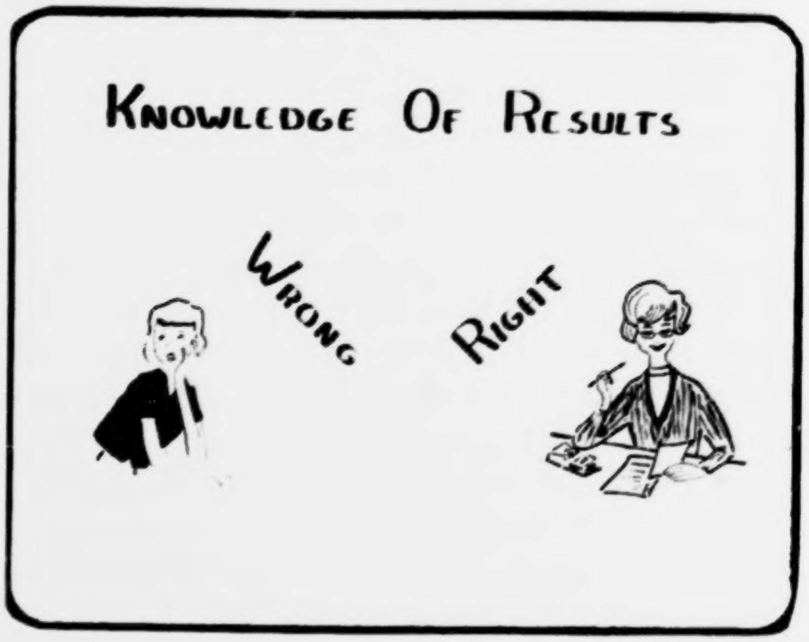
Also to be considered under the topic of response and aside from its explicit behavioral definition, is the way in which student responses are employed in

> the course of auxiliary behavior leading to terminal objectives. . . The transfer of stimulus control over a response: At the beginning of such a learning sequence, instructional stimuli are used to evoke responses that are already in the learner's repertoire. As the learner proceeds to perform stimulus-response combinations that are different from these, instruction takes place. . . (14)

Skinner, like Glaser, places the major emphasis on response. His position is interpreted by Hill as follows:

> . . . Skinner speaks of the rate at which a given operant is emitted under a given set of conditions. This language puts primary emphasis on the response, with the stimuli being of importance only as they set conditions for the response to occur. . . (15)
>
> Skinner does not mean to say that operant behavior is not influenced by stimuli. Much of his analysis of behavior is concerned with ways in which operant behavior is brought under the control of stimuli. However, such control is only partial and conditional. The operant response of reaching for food is not simply elicted by a tap on the knee almost without regard to other conditions. Because of this distinction, Skinner does not consider it useful to think of operant behavior as made up of specific stimulus-response connections in the sense that respondent behavior is. . . Skinner thinks of most behavior (the operant kind) as emitted by the organism, without bothering to consider the multitude of stimuli that have something to do with its occurrence. (16)

As might be expected, Glaser also gives considerable attention to the matter of reinforcement. Consider the following:



> . . . the central rule of reinforcement in the acquisition of behavior is a long-standing empirical fact. . . The concept of reinforcement states that behavior is acquired as a result of a contingent relationship between the response of an organism and a consequent event. . .
>
> A further well-established finding concerning response acquisition is that the contingency between a response and a reinforcing event be immediate. Delay of reinforcement may result in little or no learning. . . The utilization of this fact of learning in educational technology is very

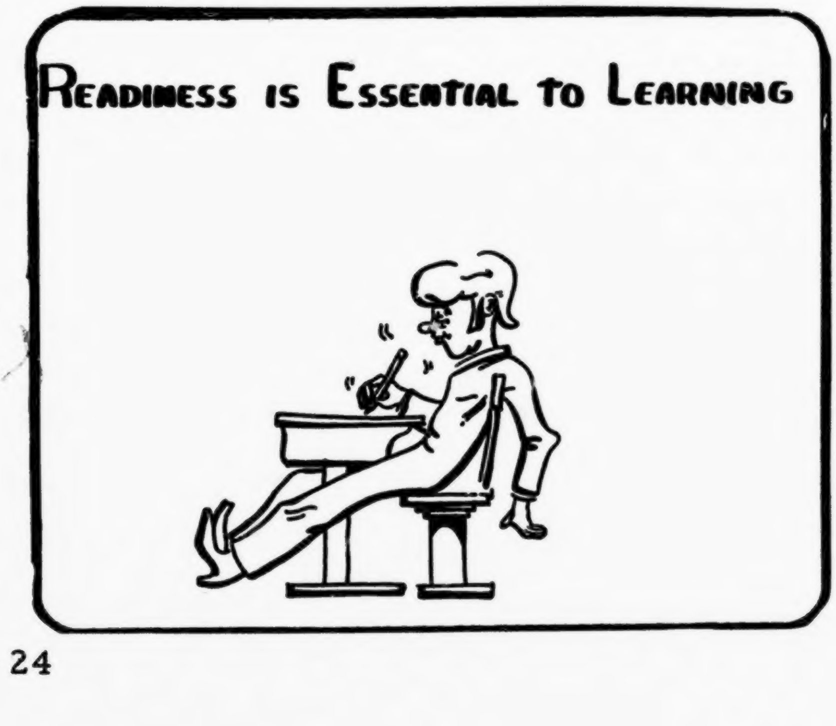
> dramatic in light of the frequent delay of reinforcement that occurs in many classroom procedures. (17)

Luchins, more than any of the other theorists, recognizes the possibilities of using audiovisual materials in the response phase of the model.

> Finally, pupils can also participate in the development of audiovisual material. For example, they may be asked how they would change an illustration that was used or what other device they would suggest. This is a procedure that the writer has used in teaching elementary, secondary, and college courses. Students at times were told, "Suppose you had to explain to someone (say, a child not in this class) what you have learned. What would you show him in order to help him understand? For example, what picture, illustration, or story would you use?" Such procedures allow for self-involvement of the learner in altering or improvising audiovisual devices. Moreover, they give the pupil experience in communicating his ideas and in seeing differences between learning and communication, as well as between impression and expression. In this way, too, audiovisual devices may become an integral part of the lesson. (18)

There seems to be considerable support for the idea expressed by Luchins that one of the significant contributions of audiovisual materials might be the preparation in A-V form by the students of their conceptions of the content which have been covered. A number of interesting experiments are now underway in this area.

In the early elementary grades it is quite customary for a teacher to encourage children to express their feelings in art, music, and drama forms following an experience. Such activity seemingly disappears in the upper grades, however, and is non-existent in the college level where the students give major attention to mastering what was in the instructor's lecture. From the preliminary evidence the writer feels strongly that we need to explore extensively the use of audiovisual material equally at the response stage, if not more so, than at the stimulus or mediating points.


Readiness is Essential to Learning

General Considerations

A term used rather loosely by educators is that of motivation. If such a separate factor as motivation does not exist, it would seem to apply to the whole learning paradigm. McDonald, who has studied motivation a great deal has said:

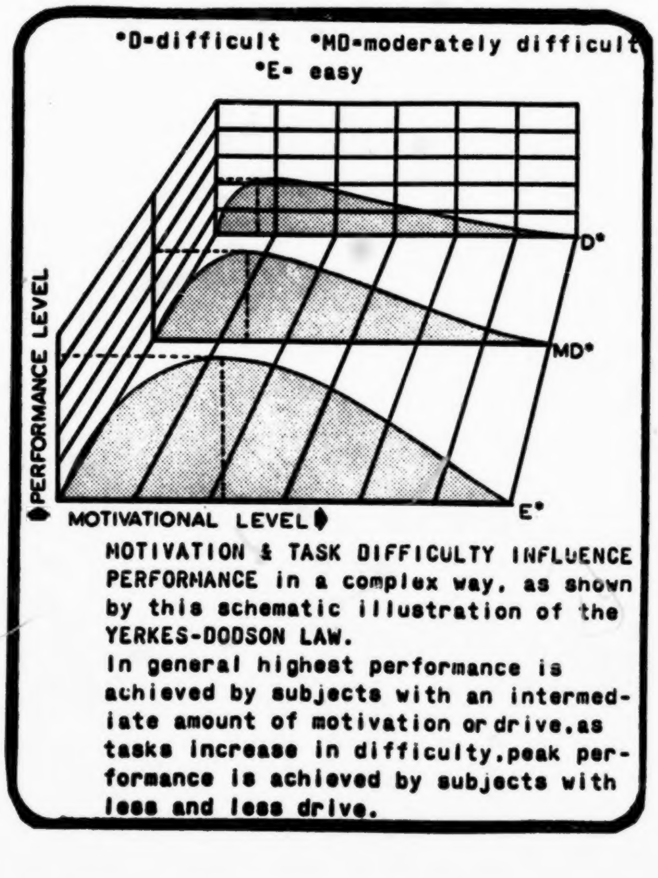
> The common conception among theories is that motivation is an

> initiating state leading to increased response activity, the consequence of which strengthen certain responses and heighten the probability of their future occurrence under similar conditions.
>
> The arousal of this initiating state may be affected either by internal changes in the organism or by the external stimuli. . . For the communication specialist, an important question is: what characteristics of an audiovisual device are likely to motivate a person?
>
> Assuming audiovisual devices may have some motivating properties, it is important to remember that learning is not thereby guaranteed. It is not necessary, however, for an audiovisual device to have motivating properties if it is used in conjunction with other procedures for motivating learning. In a notable experiment, for example, students learned more from films if they had teachers who were rated as better, even though the teachers had nothing to do with the film presentation. (19)

In dealing with the operation of motivation Luchins reports that:

> Wertheimer is against the idea that the natural state of man is inactivity, and that theories of motivation are needed to account for his activity. . . . He suggests that the problem is to account for inactivity, for inaction. (20)

Gestaltists do not deny that there are biogenetic or tissue needs but they feel that the motivation growing out of these are more complex than some theorists might postulate. For example:



MOTIVATION & TASK DIFFICULTY INFLUENCE PERFORMANCE in a complex way, as shown by this schematic illustration of the YERKES-DODSON LAW.
In general highest performance is achieved by subjects with an intermediate amount of motivation or drive, as tasks increase in difficulty, peak performance is achieved by subjects with less and less drive.

> Gestalt psychologists consider that when theory reduces human behavior to tissue needs, it overlooks certain important, even crucial, characteristics. That is, such needs have meaning as constructs in the context of certain theories, but are not necessarily the actual every-day needs of man. An approach that stresses tissue needs may therefore be dealing with hypothetical entities rather than with actual needs of particular people in real situations. . .
>
> Gestalt psychologists do not deny that there are common features in certain activities of rats and man. But a description which focuses on these similarities may not portray the crucial aspects of either organism's

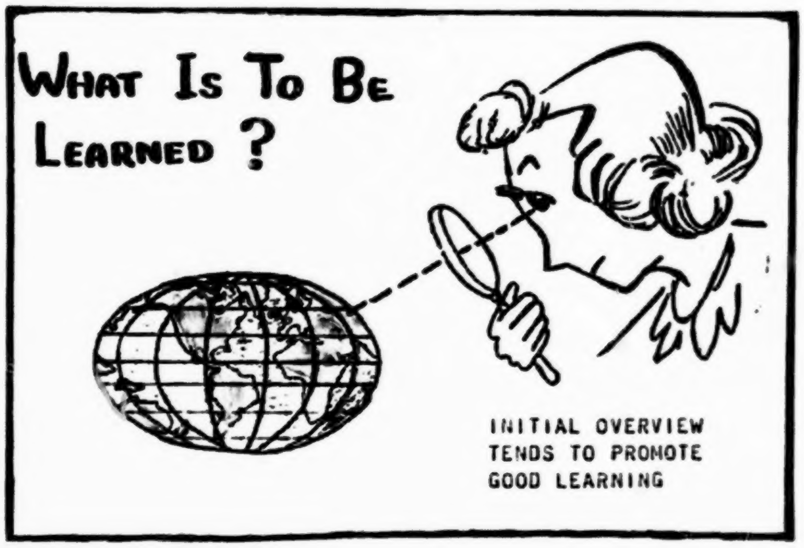
> transactions with its environment. To assume, for example, that what is crucial about human behavior and motivation in eating and copulation is revealed by studies of these biological acts in rats is to overlook that these acts have different roles in human being's environment than in a rat's. (21)

The above two theorists imply in their comments the acceptance of the idea that the factor of motivation does exist. Glaser, on the other hand, raises the serious question as to whether such an element as motivation can be isolated, and even if it is possible to do so that there is little evidence of its significance.

> When one measures the usefulness of a learning concept in terms of the extent to which it generates applied research and application for educational practice, the concept of motivation does not fare well . . .
>
> Motivation as studied has been related to the drives produced by certain experiences in an organism's history. In the laboratory, the operation of deprivation--withdrawal, for example, of food and water--has been employed to make certain events reinforcing. It taxes one's ingenuity, however, to see how deprivation can be employed in the use of instructional devices. Furthermore, much research is required to investigate the nature and use of secondary reinforcers, such as school grades, the learner's desire to be correct, or for approval and status. (22)

Whether, therefore, motivation is a separate, discreet factor or whether it is a condition innate in the learner or in certain approaches to subject matter, the fact probably remains that teachers should be aware of this drive of the organism to, as Carpenter says, "release and channel into the kinds of responses that are expected to satisfy needs, reduce tensions, avoid noxious stimuli, and reach goals." (23)

The general condition of "learning to learn" seems to have greater acceptance or at least there are fewer dissenters to its existence. Postman's idea of "learning to learn" has important implications for all instruction including audiovisual. It means, for example, that in addition to the structure of the content, which might be built into audiovisual materials, that there may also be implications for suitable directions and suggestions for attacks


WHAT IS TO BE LEARNED ?

INITIAL OVERVIEW TENDS TO PROMOTE GOOD LEARNING by the learner in the instructional materials. He identifies this matter in the following:

> One example of practical as well as theoretical interest is the phenomenon of "learning to learn." When an individual practices a series of tasks of the same general nature--when, for example, he learns a number of verbal lists, or solves a number of discrimination problems--the efficiency of his performance increases considerably and often quite rapidly. Such improvement occurs when there is no opportunity for the transfer of specific responses from one task to the next, and indeed, may appear even when there is interference among the responses. Clearly the transfer effects reflect the acquisition of modes of attack, the avoidance of certain types of errors, and other general adjustments to the learning situation.
>
> Thus far, there has been only very limited progress in the analysis of the classes of habits which constitute learning how to learn. It is essential, however, in the design and evaluation of specific training procedures to take account of the progressive development of learning skills. (24)

McDonald, like Postman, places emphasis upon the matter of instructing learners how to learn as a separate but related problem. He says:

> Harlow's recent experimental work has demonstrated the relevance of learning sets to rate of learning. Communication research literature contains some studies which suggest that preparation for a film enhances its effectiveness. The effective variable in such procedures may be the creation of relevant learning sets. (25)

Thus, two general conditions which educators might well ponder to gain the greatest effectiveness from instructional procedures are motivational factors and a suggested stratagem for the next expeditious approach to the learning task.

Some principles follow which grow out of the preceding discussion. In general, these principles appear to operate regardless of how one views the learning process.

1. Instructional sequences should be related as nearly as possible to the objectives of instruction. The more nearly the materials approximate (in terms of scope and sequence) the desired behavior, the greater the liklihood that the instructional procedures will succeed. (Simulation or analogous situation)

2. Instructional sequences should not include irrevevant cues and signs producing "false starts" for the learner. (Interference)

3. The subject matter should be structured by the teacher and/or the media which are used. This direction can assist the learner to synthetize and integrate the content. (Content structure)

4. The concentration of bits of information or density of ideas must be in harmony with the level of the learner and his ability to grasp and integrate the content. (Learner capabilities)

5. If the learner has had previous experiences which are closely related to the new ones being presented he will likely have difficulty to keep each separate. (Retroactive inhibition)

6. Clear objectives stated in behavioral terms are prerequisites to the planning of instructional sequences. (Behavioral objectives)

7. Learners make behavioral changes more rapidly when rewards and/or reinforcements occur. Whether reinforcement needs to be continuous at every stage of the learning act is not evident. (Reinforcement)

8. Learners should be asked to respond to instructional sequences in audio-visual as well as verbal means. (Evidence of conceptualization)

9. Instructional sequences should be developed in such a manner as to be exciting, refreshing and stimulating so that the learner desires to learn. (Motivation)

10. The learning situation should provide for a strategy or strategies for attacking the content predicated upon previous successful acquisition of this content by the person preparing the instructional sequence. (Learning to learn)

Selection of Appropriate Media

Dr. Gropper of the American Institute of Research has given the most attention of anyone I know to a systematic consideration of media selection with the "stimulus-mediating activities-response" model as the structure. The advantage of a translation into this model is to retain in the same general context the discussion of both learning theory as well as media selection. The AVCR issue on "Learning Theory and AV Utilization" did not include sufficient reference to media to satisfy the purposes of many people. The reason it did not was because theorists do not deal with such practical problems as the application of learning experiences to a typical learning situation for a school child with all its complexities. The discussions by Gropper, therefore, is that of an applied researcher who has taken the basic learning model and related to it the appropriate media to meet a learning objectives.

Conclusions

One might well raise the question as to what is so really new or different in what has been discussed than that which has been known to superior teachers in the past. It probably is correct that few if any of the points made is a completely new breakthrough. What is new, however, is the greater clarity with which the aspects of the learning cycle are being identified--stimulus, mediating activity, and response--and the greater responsibility incumbent on the teacher to more carefully and systematically direct the learning activities with the above points in mind. All this will require a large variety of excellently prepared materials. It will also call for a practitioneer who utilizes the carefully and systematic approach of the scientist and who compassionately aids in the unfolding and embellishing of human personality as does the artist.

As an addendum to the paper it should be indicated that the general model projected does not include all the extant theoretical positions. For example, cybernetics and mathematical models are somewhat more rigid than the S. R. model which was discussed in the paper. There are also extreme cognitive positions which are not included. At this meeting (Okoboji), Dr. Donald Snygg, (who is a cognitive field person) indicated after considering the general model, that, his own theory did not fit and could not be merged in any way with it. The cognitive field theory model which Snygg develops calls for learning as a factor of the individual learner interpreting external experiences in the way in which they make sense to him and meet his needs.

It is evident therefore that there are a number of positions which are beyond the scope of those that are taken up in the paper. At one extreme there is a movement toward greater structure and rigidity in the learning process in such instances as the mathematical and cybernetics fields. Another group of experimental psychologists holding to a cognitive position believe that almost everything is intrinsic activity growing out of the needs of the learner himself. Whether these differences are in part semantic difficulties or whether some of these theories will not fit the model isn't clear at this time. Partly this is true because there simply hasn't been enough time for discussion and attempts to fit them together by people like Dr. Snygg and others.

One further point should be made which is that no model which I have projected is one which relates quite specifically to an individual learning situation, and recognizes but does not take into account a whole series of external forces which play upon the classroom situation, the teacher, and the learner himself. These forces have to be recognized, of course, within the larger learning context as they would be in a systems approach. I have not, for example, spelled out the impact of such things as cultural influences, nor the abilities and experiences of the learner. There are, therefore, other complicating factors which retard a quick and direct application of the simple model to answer all instructional problems. But having moved this far, and I believe progress has been made by moving this far, we are still at the point of seeing that the whole problem of teaching is a most difficult and complicated area of investigation but perhaps not entirely outside the possibilities of greater scientific applications.

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3. The Second General Assembly Adjourned.

THIRD GENERAL ASSEMBLY

Monday, August 19
8:00 a. m.
Presiding: Loran Twyford

1. The meeting was called to order by Co-Chairman Twyford. A report was made by the Social Committee.

2. A discussion of the conference topic, "Learning Theory as it Relates to New Media and the Learner" was held.

3. Co-Chairman Twyford outlined the conference pattern and made several proposals as to the direction the group might take in acting upon the conference theme. After some discussion, it was moved and seconded that the delegates break into several groups of approximately 6 or 7 to help identify areas of study within the confines of the conference topic. CARRIED

4. The meeting adjourned into small groups with instructions to return to a general assembly at 10:30 a. m.

5. The general assembly reconvened to discuss concerns of the delegates as indicated by the following group reports:

Group I - G. M. Torkelson reporting:

Perception mediation
  Factors in the communication process
    1. Differences among
      a. Learners
      b. Media
      c. Learning objectives
      d. Methods
      e. Physical environment
      Role of the teacher-pupil in teacher-learning process

Group II - Curtis Ramsey reporting:

A. Problems of the learner
  1. Individual
  2. En Masse

B. Characteristics of the media
  1. Uniqueness of media
  2. Limitations

C. Principles of learning
    Theories

Group III - Murray Phillips reporting:

With what theoretical principles can we back up our contention that new media implements learning?

Group IV - James Sexson reporting:

In light of the presentations by Drs. Snygg and Meierhenry, we feel that when a thorough explanation was given of terms used, the two theories contain many similarities; therefore, we feel that a common language or glossary of definitions and terms are needed.

Define the behavioral outcomes desired (objectives) as related to the characteristics of the learner, learning process and media.

Group V - David Crossman reporting:

A. What is the perimeter of the pandemic man?
B. How can we identify the dimensions of cognition so that we can apply media to them?
C. How can we account for variations in learning behavior and learning potential?
D. We must begin with the principles of learning and then superimpose the use of media upon these principles, not vice versa.

Group VI - Mendel Sherman reporting:

A. As practitioners we have found the following principles workable and apparently effective:
   1. The learning situation should be as similar as possible to the "use" situation
   2. What evidence do we have which would support or modify the above principles?
   3. What research is needed to give better guidance?

B. With learning theory as a basis, are there unique strengths and limitations in the various media; if so, what are the best combinations for specific learning situations?

C. What are the basic -- perceptual structures (or elements of the "whole" perceptual field) that children learn according to age and culture?

D. During the learning situation, how do new media aid, improve or develop some of these principles of learning?

1. Aim or purpose of lesson is clear to student
2. Material is interesting and within scope of pupil
3. Motivation is constantly and consciously applied by teacher
4. That there is active participation by pupil
5. That the teacher's role is to point out what is significant

Summary - Curtis Ramsey reporting:

A. Focus on characteristics of learner
B. Focus on characteristics of media
C. Isolate the areas of learning
D. How does it relate to our responsibility in our schools

6. After considerable discussion by the group, it was moved by Horace Hartsell, seconded by John Dome, that reporting chairmen of the previous temporary groups meet as a committee to formulate a conference structure. CARRIED

7. Adjourned.

FOURTH GENERAL ASSEMBLY

Monday, August 19
1:00 p. m.
Presiding: Vernon Gerlach

1. The formulating committee, with Wilfred Veenendaal reporting, presented the following topics as being a possible conference structure as it relates to learning theory:

   I. Learning Objective
   II. Learner Characteristics
   III. Environment (physical)
   IV. Media Characteristics
   V. Glossary and Terms

   After discussion it was moved by Mendel Sherman, seconded by Wilfred Veenendaal, that two more areas be added and that committee reports be accepted:

   VI. Content Characteristics
   VII. Teacher Characteristics CARRIED

   It was moved by David Crossman, seconded by Curtis Ramsey, that VI and VII combine. CARRIED

(Fourth General Assembly - Continued)

2. The delegates were allowed to select the areas of interest for their committee assignments and the following groups were developed:

Group I - Learning Objectives:

Desmond Wedberg - Chairman
Gordon Blank
Lida Cochran
Horace Hartsell
Arthur Lalime
Burton Paulu
Loran Twyford

Group II - Content Characteristics:

Charles Benton - Chairman
Steve Feit
David Guerin
Harold Hill
Mendel Sherman
Allison Slagle

Group III - Teacher-Learner Characteristics:

David Crossman - Chairman
Luke Boone
Glenn Daniels
Richard Hawk
Marjorie Jarvi
Herman Preseren
Curtis Ramsey
William Sager
Gerald Torkelson

Group IV - Media Characteristics:

Richard Nibeck - Chairman
Howard Abeles
William Allan
Lydia Mariani de Morales
William DeVore
Robert Filep
Hazel Gibbony
Perry Graybill
Clifton Kessler
William Kinniell
Mervel Lunn
Viggo Rasmusen
LeRoy Simonson
Dixie Thompson
John Vergis

Group V - Environment (Physical): (Note: This group also worked on a glossary of terms)

Clarence Bergeson - Chairman
Harold Bowman
John Dome
Carol Holman
Jerrold Kemp
Leone Lake
Kenneth McIntyre
Murray Phillips
Howard Richmond
James Sexson
Ronald Uhl

3. At 2:10 p.m. the session adjourned to small groups for organization.

(Fourth General Assembly - Continued)

4. The Fourth General Assembly reconvened at 3:30 p. m. It was moved by Wesley Meierhenry, seconded by Marjorie Jarvi, that a report of committee progress be made by 8:00 a. m. Tuesday. CARRIED

5. Lee W. Cochran raised the question of the groups' desire for a conference report. After discussion, it was moved by Harold Hill, seconded by Horace Hartsell, that a report be published but did not indicate the type of report. CARRIED

6. Co-Chairman Gerlach announced there would be a demonstration of single concept 8mm instructional films at 9:30 p. m. after the committee had adjourned from evening session.

7. It was moved by Arthur Lalime and seconded that we adjourn to committees until 8:00 a. m. Tuesday. CARRIED

FIFTH GENERAL ASSEMBLY

Tuesday, August 20
8:00 a. m.
Presiding: Loran Twyford

1. The committee reports were presented in brief outline form to indicate the progress.

2. Group V then presented "Relation Between Learning and the Practical Demands of Instruction and Training", from Hilgard's Theories of Learning, as follows:

   "Some Agreement on Practical Matters

   It turns out, however, that many of the quarrels of the theories are internal ones, not very important in relation to the immediate practical problems; there are, in fact, a great many practically important experimental relationships upon which the theorists are in substantial agreement. That is, they accept the fact as demonstrated, even though they disagree about the interpretations of these facts. If the theoretical differences are irreconcilable, and one position eventually wins out over the other, there will ultimately be an effect upon practice. But advice for practical people today need not wait for the resolution of these theoretical controversies.

   Here are a few statements upon which I would expect a majority of learning theorists to agree. It would be too much to ask for perfect agreement, for some statements require many qualifications, and there are always a few theorists who are sticklers for wording.

1. In deciding who should learn what, the capacities of the learner are important. Brighter people can learn things less bright ones cannot learn; in general, older children can learn more readily than younger ones; the decline of ability with age, in the adult years, depends upon what it is that is being learned.

2. A motivated learner acquires what he learns more readily than one who is not motivated. The relevant motives include both general and specific ones, for example, desire to learn, need for achievement (general), desire for a certain reward or to avoid a threatened punishment (specific).

3. Motivation that is too intense (especially pain, fear, anxiety) may be accompanied by distracting emotional states, so that excessive motivation may be less effective than moderate motivation for learning some kinds of tasks, especially those involving difficult discriminations.

4. Learning under the control of reward is usually preferable to learning under the control of punishment. Correspondingly, learning motivated by success is preferable to learning motivated by failure. Even though the theoretical issue is still unresolved, the practical outcome must take into account the social by-products, which tend to be more favorable under reward than under punishment.

5. Learning under intrinsic motivation is preferable to learning under extrinsic motivation.

6. Tolerance for failure is best taught through providing a backlog of success that compensates for experienced failure.

7. Individuals need practice in setting realistic goals for themselves, goals neither so low as to elicit little effort nor so high as to fore-ordain to failure. Realistic goal-setting leads to more satisfactory improvement than unrealistic goal-setting.

8. The personal history of the individual, for example, his reaction to authority, may hamper or enhance his ability to learn from a given teacher.

9. Active participation by a learner is preferable to passive reception when learning, for example, from a lecture or a motion picture.

10. Meaningful materials and meaningful tasks are learned more readily than nonsense materials and more readily than tasks not understood by the learner.

11. There is no substitute for repetitive practice in the overlearning of skills (for instance, the performance of a concert pianist), or in the memorization of unrelated facts that have to be automatized.

12. Information about the nature of a good performance, knowledge of his own mistakes, and knowledge of successful results, aid learning.

13. Transfer to new tasks will be better if, in learning, the learner can discover relationships for himself, and if he has experience during learning of applying the principles within a variety of tasks.

14. Spaced or distributed recalls are advantageous in fixing material that is to be long retained.

These points are neither systematic nor comprehensive. They are listed merely in order to add concreteness to the suggestion that there are a number of useful generalizations about which students of learning are in substantial agreement."

2. Following the reports, Wesley Meierhenry expressed a desire to see a relationship between the reports of the different committees and suggested that this would be possible if they did not lose sight of the learning principles in their work.

3. It was suggested by Donald Snygg that the reports indicated some hurry and fatigue and cautioned the groups in this regard.

4. After some discussion, the delegates were concerned that little was being accomplished in light of the title of the conference.

5. It was moved by David Crossman, seconded by Howard Richmond, that each committee select one member, or steering committee, to bring some snythesis to the groups as to the final outcome. CARRIED

6. The committee appointed was as follows:

   Robert Filep
   David Guerin
   Jerrold Kemp
   Curtis Ramsey
   Wilfred Veenendaal

7. Adjourned.

SIXTH GENERAL ASSEMBLY

Tuesday, August 20
1:00 p. m.
Presiding: Vernon Gerlach

1. Co-Chairman Gerlach asked the Steering Committee for a report. With Jerrold Kemp reporting, the Steering Committee suggested the conference continue to work in their respectful committees for the time being.

2. The meeting adjourned at 1:30, reconvening at 2:45, at which time the Steering Committee set forth the following guidelines and time table for the committees:

   A. Each committee will submit a summary by 8:00 a. m. Wednesday containing:
      1. Results of deliberations on assigned topic
      2. The relationship of assigned topics to Principles of Learning
      3. Results which violate Principles of Learning
      4. Shortcomings of Principles of Learning to results

   B. Also at 8:00 a. m. Wednesday, the committees were to restructure themselves into the following combinations:
      1. Group A:
         Committee I - Learning Objectives
         Committee II - Teacher-Learner Characteristics
         Committee III - Content Characteristics

      2. Group B:
         Committee IV - Environment
         Committee V - Media

   C. At 7:00 p. m. on Wednesday, the total group would reconvene to a general assembly.

3. Adjourned.

SEVENTH GENERAL ASSEMBLY

Wednesday, August 21
9:00 a. m.
Presiding: Vernon Gerlach

1. William Allan, Chairman of the Resolutions Committee, gave his report. The Resolutions Committee acts only in the form of recommendations. Any recommendations to be requested should be sent to the committee for consolidation.

2. Adjourned to combine groups as previously directed by the Steering Committee.

EIGHTH GENERAL ASSEMBLY

Wednesday, August 21
3:30 p. m.
Presiding: Vernon Gerlach

1. David Crossman presented a theory concerning the classification of Learner-Teacher Characteristics as related to "Learning Theory". Some discussion followed, and it was suggested that the theory as indicated by David Crossman would not effect the final conference report.

2. Wilfred Veenendaal presented a list of five additional learning theories to be added to Hilgard's 14 points (previously discussed):

    15. Least change
    16. Simulation
    17. Set
    18. Contrast
    19. Interference

3. It was moved by Horace Hartsell, seconded by John Dome, to accept the 19 functional principles. CARRIED

4. Moved by Arthur Lalime, seconded by Harold Hill, to expand the last 5 principles in the manner that Hilgard's 14 points are defined. CARRIED

5. It was suggested by Kenneth McIntyre that the Steering Committee act as the committee to expand the five additional principles.

6. Moved by Gordon Blank, seconded by David Guerin, that each committee prepare their report in the form they desire and have ready for presentation at 7:00 p. m. CARRIED

7. Adjourned at 4:00 p. m.

NINTH GENERAL ASSEMBLY

Wednesday, August 21
7:00 p. m.
Presiding: Loran Twyford

1. The five committee chairmen presented their reports which were accepted by the conference delegates with minor changes.

2. Wilfred Veenendaal presented the expanded five principles which were added to Hilgard's 14 points. They were as follows:

    15. Its principle of least differentiation

        Learner differentiates elements of his field of perception to the extent necessary to establish meaning for him.

    16. Principle of simulation

        Learning is enhanced when the teaching situation approximates reality.

    17. Principle of set

        The learner's expectations within his conceptual framework affect his perception of new information.

    18. The principle of contrast

        The perception of new information depends upon the degree of contrast in the figure-field relation.

    19. Principle of interference

        When learning a response, all other similar associations can be considered as interfering factors.

3. The Editorial Committee was directed to take the submitted reports and make minor changes as indicated by the conference and have them ready for distribution at 8:00 a. m. Thursday. The Editorial Committee consisted of:

    Murray Phillips, Chairman
    Howard Abeles
    Gordon Blank
    Glenn Daniels
    David Guerin
    LeRoy Simonson
    Gerald Torkelson

4. Adjourned.

FINAL COMMITTEE REPORTS AS REVISED:

GROUP I - LEARNING OBJECTIVES

The rationale of this committee was based upon an eclectic approach in which rigid acceptance of any single theory was not observed. The objectives of learning may be determined on the basis of connectional theories, cognitive theories and other theories. Each theory will produce an entirely different frame of reference for the establishment of objectives. We recognize common elements inherent in various learning theories.

To arrive at a list of operational principles, the committee reviewed principles found in a number of theories discussed by Hilgard in his book, THEORIES OF LEARNING.* Hilgard found these principles to be acceptable to all of the theorists. Principles submitted by Dr. Donald Snygg and Wesley Meierhenry have been added to this list. These 19 principles of learning, although they may not be exhaustive, provide an operating framework for analyzing task objectives. Educational objectives stem from a complex of philosophical, social and cultural factors which are interwoven. These objectives may be transformed into behavioral goals.

We were primarily interested in identifying task objectives by applying the operational principles to behavioral goals. Anyone developing objectives should know which learning principles apply. Objectives may be classified in the following manner: (1) facts; (2) principles; (3) understandings; (4) skills; (5) attitudes; (6) appreciations. Each of these task objectives does not relate to all the operational principles. The following chart indicates those principles that relate significantly. Those that are most relevant are indicated by a capital "R".

The relationship of the operational principles to the task objectives is expressed by the table which follows. It should be noted that the relationships expressed are primarily based on a criterion of appropriate relevance. In using the table, a person determining task objectives for a particular learning problem should review the principles that have been checked. Particular attention should be given to those of greatest relevance. It would appear that the cognitive (e. g. facts, principles, understandings) and psychomotor (e. g. skills) realms are more often applicable, probably due to the relative ease with which these may be specified and measured. On the other hand, the affective realm (e. g. attitudes and appreciations) is less specifiable and measurable and consequently fewer of the principles apply.

In applying the principles to the determination of objectives, it is important that consideration be given to behavioral levels, direct use, analogizing or transfer, mapping for "discovery", and recombination-reorganization.** These are suggested as a means for further study and analysis of task objectives.

* Ernest R. Hilgard, Theories of Learning, second edition, 1956, pp. 486-7, Appleton Century Crafts, Inc.

** David G. Ryan, An Information-System Approach to Theory of Instruction with Special Reference to the Teacher, System Development Corporation, Santa Monica, California, March 20, 1963.

RELEVANCE OF TASK OBJECTIVES TO OPERATIONAL PRINCIPLES

	Learner Capacity	Relevant Motivation	Excessive Motivation	Reinforcement	In-Extrinsic Motivation	Failure Tolerance	Realistic Goals	Learner Background	Active Participation	Meaningful Activity	Practice	Knowledge of Results	Transfer	Spaced Practice	Least Change	Simulation	Set	Contrast	Interference
Task Objectives	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Facts	X	X	X	X	R		X		X	X	X	X	X	X	X	X	R	X	R
Principles	X	X	R	X	R	X	X	X	X	X		X	R		X	X	X	X	R
Understandings	X	X	X	X	R	X	X	X	X	X		X	X		X	X	R	X	R
Skills	X	X	X	X	X	X	X	X	R	X	R	X		R	X	X			R
Attitudes		X	X	R				R								X		X	R
Appreciations	X	X	X	X	R			R	R							X		X	R

NOTE: Capital R denotes area of greatest relevance

(Group I - Final report as revised - Continued)

COMMITTEE MEMBERS:

Desmond Wedberg - Chairman	David Little
Gordon Blank	Wesley Meierhenry
Lida Cochran	Burton Paulu
Horace Hartsell	Wilfred Veenendaal
Arthur Lalime	

GROUP II - CONTENT CHARACTERISTICS

I. INTRODUCTION

The "information explosion" demands that we take a fresh look at content -- its selection and arrangement. This proliferation of information has brought about new emphases and concerns such as the following:

1. Dissatisfaction with the old descriptive, "all-encompassing" approach, and more emphasis on selectivity and study in depth.

2. Emphasis on content structure in the various disciplines.

3. Process becoming increasingly important, possibly to the point where it becomes content.

4. Greater trend toward specialization, and thus more need for inter-disciplinary cooperation.

5. Content becoming obsolete more quickly or in need of reorientation.

6. Advances in technology needed to assist in the job of storing and retrieving content.

NOTE: The numbers in the parenthesis following the major items in Sections II and III refer to the operational principles on pages 37, 38, and 41.

II. SELECTION OF CONTENT

1. Selection should be determined by intended functions. Among the functions of content in a learning situation are the following:

   a. Provide a common background for communication
   b. To prepare for an occupation
   c. Help shape and adjust to the environment
   d. Serve as knowledge for its own sake or to create new knowledge
   e. Provide material for self-realization

Content should not be selected on the premise that such content will "train the mind." It should be selected for intrinsic value and included only if it contributes materially to the learning objectives.

2. Content should be within the student's framework of understanding.

   Media content should be selected with the capacity of the learner as a criterion. More difficult content should be included for the brighter students. Difficulty is more a matter of selection of content than it is a property of the medium, per se. Content of television, motion pictures, and the other media must be made meaningful, depending upon ability to learn, phenomenological field, age, etc. Content should be selected according to the principle of least change. In addition to the requirement that content be meaningful and within the capacity of the learner, it must also involve change only to the extent necessary to solve his problem. In other words, given content must not require so great a change on the part of the learner that he tends to refuse to accept it. Retention, too, is vital. The evidence indicates that we remember better what we understand than what we do not understand. (1, 10, 15)

3. Content should be ample and varied enough to meet present and future needs and interests of all children.

   As the learner acquires learning more readily if he is motivated, the selection of media content must fit this principle. Equally important is the danger of extensive motivation since this may create a distracting emotional state in the learner. The content must be directed to the learner in a meaningful context, eliminating nonsense materials, so that understanding takes place. The learner needs to participate in setting goals, especially those involving future needs. Content which lends itself to rewards for successful achievement contributes to both present and future needs of the learner. It is especially important that a learner be motivated toward future needs. Content which will motivate a student in one situation will not necessarily do so in another. Furthermore, different children are motivated more by one type of content than another. In order to motivate various learners in different learning situations, it will be necessary to have a variety of content arranged in different forms. A variety of materials will enable the teacher to present situations which call for spaced or distributed recalls. This is advantageous in fixing content that is to be retained. (2, 3, 4, 10, 14)

4. Content should illuminate principles and processes.

   This will give the learner a general knowledge of the whole, thereby making the material itself more meaningful and the task of learning easier. Transfer to new tasks will be better as an understanding of the knowledge along with the process will enable the learner to discover new relationships for himself. This promotes the reorganization of experience which is always identified with good education. This means that the content for whatever medium used will be based not upon closure within the content but closure within the student's process of thinking. (13)

5. Content should be relevant to the total instructional program.

   In selecting media content planning must provide for both the vertical shortrange and horizontal longrange curriculum structure. Effective learning will result more readily if all divisions and topics are integrated. A scope and sequence which integrates the school experiences of the learner will serve more adequately if content is selected in such a way that it relates to the total instructional program. In effect, this means that we start with the familiar and base the next step on those which we have already taken. If the content is related to the total instructional program, transfer to new tasks will be more readily facilitated. (14)

6. Content should include instruction on techniques in locating and utilizing further information.

   The information explosion demands that the student be taught techniques for the location and utilization of information. Active participation by the learner in this process corresponds with learning theory. When a student seeks information himself, he is more apt to learn the processes needed for searching out information. (9, 13)

III. ARRANGEMENT OF CONTENT

1. Content should be presented within a framework structured ideally to facilitate learning.

   This is in accord with the principle that learning is enhanced when the teaching content in its arrangement approximates reality. Where a given subject matter has within it an inherent order and process, the content must be arranged accordingly. (10, 16)

2. Content should be encoded in a form which will affect the learner in the desired direction.

   Some content will need to be encoded in the form of motion pictures, filmstrips, charts, etc. In order to make the information as meaningful as possible the same content, when encoded in verbal form, will often result in little meaning, because the cognitive field of the learner does not include the referents necessary for meaning to result. Since stimuli vary in their effectiveness in eliciting desired responses, a variety of encodings will be needed. Also, learners differ in their ability to learn through the various senses. To meet these differences a variety of media should be available. (3, 4, 7, 10, 11, 12, 13)

3. Content should be arranged to provide maximum flexibility in meeting individual differences.

   This provides a means of communicating to all of the learners regardless of apperceptive background. This flexibility of arrangement will help prevent retroactive inhibitions, and give the learner the reward of success in learning. (1, 13, 15, 19)

COMMITTEE MEMBERS:

Charles Benton - Chairman	Harold Hill
Steve Feit	Mendel Sherman
David Guerin	Allison Slagle

GROUP III - TEACHER-LEARNER CHARACTERISTICS

Several classes of variables other than content and learning objectives must be considered in the use of media in the teaching-learning process. These are the characteristics of learners and teachers at the thresholds of learning and teaching, and the characteristics of the teacher's functions in this process.

The purpose of this committee was to identify these characteristics and functions to serve as a basis for others concerned with the use of media. It was not the charge of the committee to spell out in detail the relationships of these characteristics to media selection and use, but to indicate those areas which were considered by the committee as pertinent for those who use media.

Four broad areas suggest themselves as categories by which learner differences and similarities may be characterized. These are cognitive (intellectual); cultural; physiological; and emotional. The following list suggests a possible breakdown of known differences which must be taken into account when considering the selection and use of media. It will be noted that some of the differences listed are not common to each category.

A. Cognitive
   1. Intellectual capacity
   2. Genetic potentialities
   3. Aesthetic and creative qualities

B. Cultural
   1. Socio-economic background
   2. Aesthetic and creative proclivities

C. Physiological
   1. Maturation levels
   2. Physical potentialities and disabilities
   3. Genetic difference

D. Emotional
   1. Emotional maturity

Other points of difference among learners at the threshold of learning which may be considered to pervade each of the four categories, through some dimension or other, are sensory acuity, motivational levels, and experiential background. These, too, will have a direct bearing upon the selection and utilization of media.

Viewing learners from the point that they have similarities, one must account in using media for such things as:

1. Uniqueness in the sense that each learner is an individual.
2. Activeness in that each learner as a learner is active in the process of learning, even though much of his action may be covert.
3. Worthiness in that each learner has inherent worth and commands respect as an individual.
4. Curiosity as an innate quality which may be capitalized upon in initiating learning.
5. Adaptivity in that each learner tends to become a social being amenable to change.
6. Responsiveness in that learners, properly handled, can be expected to respond to learning situations which are meaningful to them.
7. Predictable patterns of growth which provide general guides to media development and selection.

Apart from these learner differences and similarities (which also apply to teachers as persons), it is relevant to consider the functions of the teacher. As Bruner has stated: "The teacher. . . is a personal symbol of the educational process." As such a symbol, the functions of the teacher thus become important to the topic of this conference since the teacher controls to a large extent the impact of media upon the teaching-learning process. Insights into the teacher's functions will suggest, by internal analysis of those functions, the framework within which media may serve - not only as an extension of the teacher's capabilities - but also as an avenue through which the teaching-learning process may be extended beyond the human capabilities of the teacher.

It must be understood that the teacher operates within a total framework of social and moral responsibilities which pervade all other teacher functions.

(Group III - Final report as revised - Continued)

Thus, the teacher as a SOCIALLY RESPONSIBLE PERSON, assumes a social and professional role which takes cognizance of the mores of the particular culture in which he and the student operate.

Also, the teacher as a PROFESSIONAL-ETHICAL PERSON takes cognizance of the heritage and responsibilities of the profession of teaching and strives to maintain a high degree of competence.

The teacher as the CONTROLLER maintains class and course organization, protects thought and action, and continuity of student activities.

The teacher as a DISSEMINATOR imparts and interprets information, facts, concepts and attitudes through a variety of means.

The teacher as a JUDGER evaluates student learning and action, learning resources, and curriculum content.

The teacher as a FACILITATOR acts as a catalyst in initiating and clarifying goals, in motivating interest in learning, and in helping students to evaluate their own progress.

The teacher as a MENTOR offers Inspiration, Emotional Stability, Guidance, and serves as a Model.

In all of these functions it becomes apparent upon analysis of the relationships of media to learner characteristics, learning objectives, and curriculum content that media, to be effectively utilized, must be considered in the context of these functions.

COMMITTEE MEMBERS:

David Crossman - Chairman
Luke Boone
Glenn Daniels
Richard Hawk
Marjorie Jarvi
Herman Preseren
Curtis Ramsey
William Sager
Gerald Torkelson

*The underlined terms are attributed to Marie Hughes' study (Provo, Utah) on teacher characteristics.

GROUP IV - MEDIA CHARACTERISTICS

A RATIONALE

In view of the fact that we have neither the knowledge nor the inclination to deal with the precise categories into which learning theorists compartmentalize behavior, we have chosen to operate within broader frames of reference. Furthermore, since behavior considerably pre-dates the science of psychology and since organisms will continue to behave in generally predictable pragmatic modes despite theorists' attempts to neatly categorize these behaviors, we feel justified in partially utilizing as guidelines our considerable collective experiential observations and practices.

These guidelines must be recognized as being merely indicative of a sample or model of a method of operation. We do not pretend that our material is definitive since, as we stated earlier, we have neither the time nor the knowledge to make it so. We believe that as long as we carefully explain our limitations and consequent assumptions, our procedure is in accord with the task we set for ourselves.

ASSUMPTIONS

Our operational procedure is based upon the following assumptions:

(1) That Hilgard's fourteen areas of agreement culled from the several schools of learning theory should be considered operational principles rather than principles of learning.

(2) That for our purposes we have grouped Hilgard's points under Dollard and Miller's four principles of learning because they come closest to describing the classic communications model.

(3) That the analysis of media has been accomplished on a purely subjective basis.

(4) That the evaluative scale has been arbitrarily determined.

(5) That materials and the equipment or hardware that implement them are to be considered as a unit, hereafter referred to as media.

(6) That the appropriate media have been evaluated in terms of their use under optimum conditions, i. e., high-quality material, appropriate content, use under good physical conditions. Reference to teacher influence has been purposely admitted.

(7) It is recognized that others may evaluate these media differently.

(Group IV - Continued)

DEVELOPMENT OF INSTRUMENT RELATING MEDIA TO LEARNING THEORY

	Drive	Cue*	Response				Reinforcement			
	2	10	7	9	11	13	4	6	12	14
ETV	x	x		o				o	o	
Language Laboratory Audio-Active-Record	x	x	x	x	x	x	x	x	x	x
Educational Classroom Film-- Color, sound, special subject matter	x	x		o	o	o		x	o	o

* Principles 15 through 19 are assumed to operate with all media and depend more upon learner characteristics than media characteristics.

KEY:
x - Indicates compatibility
o - Indicates incompatibility
blank - Indicates no judgment renderable

EDUCATIONAL TELEVISION (Open Circuit)

2. Motivation (x) - High, because of student's previous experience with out-of-school viewing; represents a change from ordinary classroom presentation, good visibility for every member of the group, and eye contact with the TV teacher adds to personalization of presentation.

10. Meaningful Material (x) - Uses variety of techniques, is well-organized and carefully paced, has immediacy and realism.

9. Active Participation (o) - Relatively weak, although possible in some situations.

11. Repetitive Practice-- Repitition not customary, although possible.

13. Relationships -- Not inherent in the medium.

4. Reward -- Not a special attribute.

6. Success (o) - Weak, since no student-TV teacher contact.

12. Knowledge of Results (o) - Weak; no student-TV teacher contact.

14. Spaced Recall -- Usually not applicable.

Even though many of these points indicate negative relationships, under certain circumstances, such as a feedback system or rebroadcast of videotaped material, these could become positive. Usually, however, these conditions do not exist. This does not mean that ETV is not a valuable teaching medium but, like many other media, it is most effectively used in combination with other educational experiences. Furthermore, the TV teacher is a specialist in the material which he is presenting, has time to prepare carefully, and has available to him a great variety of resources for his presentation.

LANGUAGE LABORATORY
(With Audio-Active-Record Facilities)

2. Motivation (x) - The medium extrinsicly motivates the student because it crystallizes a normal interest in electronic devices. Intrinsic motivation is developed by continual success with the medium. Interest in hearing his own voice and comparing concretely his achievement is motivation.

(Group IV - Final report as revised - Continued)

10. Meaningful Material (x) - Materials have a purpose and are designed according to the student's needs.

7. Realistic Goal-Setting (x) - Different levels of difficulty in materials can be selected by the student and the teacher so that the student can set realistic individual goals rather than single class assignments according to class norms. This selection is based on the level of the student's performance.

9. Active Participation (x) - Participation by the student is the essence of the medium.

11. Repetitive Practice (x) - Provisions are made within the medium for variations of repetition.

13. Relationships (x) - A perfect situation is learning the language in a native environment. However, depending upon the extent of the materials, transfer of task is improved.

4. Reward (x) - In a large measure, learning in a language laboratory is the result of the student's failure to do it right the first time. This is learning by failure, but not necessarily by punishment (there is no public knowledge of failure). The possibilities of reward are present but limited by the class size.

6. Success (x) - The programs are developed from simple to complex in order to insure a backlog of success. The element of constantly built-in review inherently provides for success.

12. Knowledge of Results (x) - A perfect situation is the one-to-one relationship of the tutor system. However, depending upon the size of the class, continuous evaluation is dependent upon factors other than the medium.

14. Spaced Recall (x) - Frequency and intensity of spacing and distributing of recalls are completely possible.

The statements relative to the language laboratory with audio-active-record facilities would be appropriate to the language laboratory with audio-active facilities to a lesser degree because of one less facility. The principles of learning are enhanced by addition of visualization to the medium.

(Group IV - Final report as revised - Continued)

EDUCATIONAL CLASSROOM FILM
(Color/sound - special subject matter)

2. Motivation (x) - Because of natural interest qualities of film (color, sound, motion, realism, sequentially ordered).

10. Meaningful Material (x) - Realism; within viewer's repertoire of experience.

9. Active Participation (-) - Viewer is a passive observer; intrinsic involvement, but no overt activity.

11. Repetitive Practice (-) - First showing, only one exposure. Second showing provides repetition.

13. Relationships (-) - Assuming the typical film, the student is directed through a predetermined sequence of learning experiences whose relationships are specified. The student may later relate the total experience to other tasks.

4. Reward -- We feel the medium contains no inherent reward or punishment. Other environmental factors may call this principle into play.

6. Success (x) - If the content gradually provides sufficient continuity to make the outcome meaningful.

12. Knowledge of results (-) - Brought about only by additional activities provided by the teacher.

14. Spaced Recall (-) - Brought about only by additional activities provided by the teacher.

RECOMMENDATION

In attempting to relate the characteristics of media to operational principles, it is our opinion that the report has potential for identifying certain educational advantages and limitations of media. The model here proposed is by no means complete. More media and learning principles may very well be added. It is recommended that the report be used to evaluate the various media in their many facets of utilization.

COMMITTEE MEMBERS:

Richard Nibeck - Chairman
Howard Abeles
William Allan
Lydia de Morales
William DeVore
Robert Filep
Hazel Gibbony
Wesley Grabow
Perry Graybill
Clifton Kessler
Mervel Lunn
Viggo Rasmusen
LeRoy Simonson
Dixie Thompson
John Vergis

GROUP V - ENVIRONMENT (PHYSICAL)

The basic premise of this paper is that the functional use of media, in keeping with prominent learning theories, is facilitated by the provision of optimum environmental conditions. The fundamental consideration in any educational space should be the provision of an atmosphere conducive to the teaching-learning process. For the purpose of this study, these spaces are considered in functional terms rather than as definitive entities.

The "spaces for learning" listed below have been coupled with some of the learning principles previously stated. In I, B and C below, some of the spaces may be justified on other grounds than learning theory. The learning and teaching spaces summarized in Section I are similar to those recommended by other segments of the teaching profession. For the purpose of this study, the spaces are listed as requiring specific design features which will permit the optimum use of media. These specific factors which must be considered are listed in Section II. (See pp. 37, 38, & 41)

I. Providing teaching-learning spaces for optimum use of media (see notes below)
  A. Teacher-learner spaces

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16
1. Instructional															
a. Large group	o	x			?	?			o	?		o	o		
b. Small group	x	x							?			x	x		
c. Individual	x	x					x		x	x	x	x	x	x	
2. Specialized															
a. Learning laboratories (electronic, science, etc.)	x	x							x		x	x	x	x	x
b. Individual study	x	x			x		x		x	x	x	x	x	x	
c. Pupil work spaces	x	x			x		x		x	x	x	x	x		x
B. Teacher Use Spaces															
1. Office		x								x					
2. Preparation		x								x					
3. Conference and planning		x								x					
C. Service spaces															
1. Instructional Materials Center (includes audiovisual, library, production, maintenance, storage, and TV)		x			x					x					
2. Data Processing		x						x				x			

Note 1: x - Indicates compatibility with the learning principle.
o - Indicates incompatibility with the learning principle.
? - Indicates possibility that for particular students the learning principle may be supported or violated.

Note 2: This chart has been filled in on the assumption that optimum conditions exist in all categories. To the extent that optimum conditions are not present in any one of the variables, the markings would most likely change.

Note 3: We see no way in which a learner could operate outside of the principles of Change, Set, Contrast, and Interference. As noted above this chart refers to optimum conditions. Therefore, we have not included them in the chart.

II. Essential factors in design for optimum use of media must include consideration of the following and each must best serve its functional purpose. It is considered that these factors are essential to the elimination of interference.

   A. Instructional Spaces
   B. Projection Systems
   C. Light Control
   D. Climate Control
   E. Electrical Power
   F. Sound Systems and Sound Conditioning
   G. Furnishings and Fixtures
   H. Storage Facilities
   I. Display and Exhibit
   J. Traffic Flow

GLOSSARY OF TERMS

CLIMATE CONTROL -- the provision of an adequate supply of fresh, clean air, at a temperature and humidity level consistent with the type of activity taking place.

INDIVIDUAL -- one learner.

LARGE GROUP -- any group whose size greatly restricts or eliminates the possibility of any member entering into discussion.

LIGHT CONTROL -- the ability to regulate completely the level of illumination of any space and/or any portion of that space.

PROJECTION AND VIEWING SYSTEM -- includes all elements essential to optimum projection and viewing of instructional materials; i. e., projectors, screens, stands, power sources, audio, and television.

SMALL GROUP -- any group size which permits all members of the group to participate in discussion, usually under the direction of a single instructor.

SOUND CONDITIONING -- the treatment of educational space according to acceptable acoustical engineering principles.

SOUND SYSTEM -- a sound distribution system capable of reproducing audio stimulus, from any desired source, and distributing it as needed to any desired space or students.

SPACE -- a three-dimensional facility (enclosed or otherwise) essential to the teaching-learning process. The specific design, shape, or cubic footage of spaces is intentionally omitted since these will depend on local conditions and future advances in technology.

TRAFFIC -- movement of personnel, materials, and equipment.

BIBLIOGRAPHY

The many publications brought out under the auspices of the Educational Facilities Laboratory and other groups amply describe specific architectural details of new educational structures. Examples are:

NEW SPACES FOR LEARNING -- designing college facilities to utilize instructional aids and media. Rensselaer Polytechnic Institute, EFL, 1961.

A DIVISIBLE AUDITORIUM -- Boulder City, Nevada, EFL #4.

PROFILES OF SIGNIFICANT SCHOOLS: A Series of Ten Studies by EFL.

STUDY CARRELS - Designs for Independent Study Space, EFL.

PLANNING SCHOOLS FOR NEW MEDIA -- de Bernardis

FOCUS ON CHANGE -- Guide to Better Schools, Trump and Baynham, Rand-McNally, 1961.

DAVI publications

COMMITTEE MEMBERS:

Clarence Bergeson - Chairman
Harold Bowman
Carol Holman
Jerrold Kemp
Leone Lake
Kenneth McIntyre
Murray Phillips
Howard Richmond
James Sexson
Ronald Uhl

TENTH GENERAL ASSEMBLY

Thursday, August 22
8:00 a. m.
Presiding: Vernon Gerlach

1. The report of the Resolutions Committee was submitted. It was moved by William Allan, seconded by Arthur Lalime, that we adopt the report with an amendment that Wilfred Veenendaal's name be added to graphics. CARRIED

2. Horace Hartsell reported for the 1964 Topics Committee on the subjects which had been presented to his committee. After some discussion, like topics were combined into four proposals as follows:

    I. Learning Space and the Educational Media in Instructional Programs.

    II. Operations Research and Systems Analysis Employing Educational Media. (Note: DAVI Research Committee will have a conference on this topic in January, 1964)

    III. Educational Media in the Social Studies: The Basic Resource.

    IV. Learning Theory as it Relates to the Educational Media and the Learner. (Note: Restructure and continue to work on)

    It was moved by William Sager, seconded by Herman Preseren, that we vote on paper indicating a first, second, and third choice to give the 1964 Planning Committee an expression of the group feeling on these topics. CARRIED

    The expression as indicated by the vote is as follows:

CHOICES	1st	2nd	3rd	TOTAL
Space	25	11	8	44
Research	6	13	8	27
Learning Theory	3	6	13	22
Social Studies	8	6	9	23

3. An introductory statement under which the conference report will be published was submitted. It was moved by Arthur Lalime, seconded by Steve Feit, that the statement be part of the report and be placed following the title page. CARRIED

(Tenth General Assembly - Continued)

4. Lydia de Morales of Puerto Rico gave a very interesting insight into the educational picture of her country and then her reaction to the conference. After indicating that she was somewhat confused in the beginning (weren't we all), she closed by saying, "It was the most rewarding experience I have had in conferences."

5. William Sager of Toronto, Canada, also gave the conference a picture of education in Canada as it compares to ours. He indicated that it was an honor to have been nominated to attend.

6. Gerald Torkelson, U. S. Office of Education, remarked on Title VII, National Defense Education Act.

7. It was moved by Arthur Lalime, seconded by Allison Slagle that a dittoed sheet of a tape recording by Wesley Meierhenry be injected as an introduction to his talk. CARRIED

8. Moved by Kenneth McIntyre, seconded by Jerrold Kemp to include the visuals of the Meierhenry report, within limitations of the budget, in the Summary Report. CARRIED

9. It was moved by Howard Richmond, and seconded, to continue the present procedure for selecting those delegates to return to the next Okoboji Conference. CARRIED

10. Moved by Murray Phillips, Chairman, Editorial Committee, and seconded by David Crossman, that the final reports as revised be accepted and included in the Summary Report. CARRIED

11. Curtis Ramsey presented the Summary Report. It was moved by Vernon Gerlach and seconded that the summary be dittoed for distribution and inserted in the final report. CARRIED

12. Chairman of "Rest", Mendel Sherman, returned the "Rest Gavel" for safekeeping.

13. The co-chairman expressed appreciation for the cooperation of the groups during this Ninth Lake Okoboji Conference.

14. The Okoboji Gavel was returned by the Co-Chairmen, Vernon Gerlach and Loran Twyford, to Lee W. Cochran, to be placed in safekeeping until the 1964 conference. Mr. Cochran closed the conference with best wishes to all delegates for a safe journey home.

15. The Ninth Lake Okoboji Audiovisual Leadership Conference was adjourned by Lee W. Cochran at 11:15 a.m. on Thursday, August 22, 1963.

RESOLUTIONS COMMITTEE REPORT

The following recommendations are proposed by the Resolutions Committee:

1. The members of the Ninth Lake Okoboji Audiovisual Leadership Conference extend their appreciation for the privilege of being guests of the State University of Iowa and the DAVI, at the Lakeside Laboratory; they express their gratitude to President Virgil M. Hancher; Robert F. Ray, Dean, Division of Extension and University Services; Lee W. Cochran, Director, Bureau of Audio-Visual Instruction, Division of Extension and University Services, State University of Iowa; John R. Hedges, Associate Director, Bureau of Audio-Visual Instruction, State University of Iowa; to Kenneth R. Berry, Raymond V. Wiman, LeRoy Simonson, David Little, Glenn Daniels, Clifton Kessler, Lida M. Cochran, and to other members of the Iowa Committee. The members also express their appreciation to Dr. and Mrs. R. L. King, Mrs. Jean Eickstaedt, to Mrs. Bessie McKinstrey, and to all of the Iowa Lakeside Laboratory personnel.

2. The participants extend their grateful appreciation to the Board of Directors of Teaching Film Custodians for helping to make this conference possible.

3. The members extend their thanks to co-chairmen Vernon Gerlach and Loran Twyford, as well as members of the Advisory Committee, for their able leadership and guidance throughout the conference.

4. The conference extends its appreciation and thanks to Dr. Donald Snygg of New York State College, Oswego, New York, and to Dr. Wesley C. Meierhenry, Assistant Dean, Teachers College, University of Nebraska, for presenting keynote addresses and providing consultant services during the conference.

5. The conference extends appreciation for excellent graphic arts services to Jerrold Kemp, Wilfred Veenendaal, and David Little, and for typing and duplicating service to Ann and Gene Clark and Willieanna Hartsell.

6. Members of the conference commend the dining hall staff consisting of Mr. and Mrs. Lester Pettit, Judith Stotts, Sharon Krull, Bryce Redington, Margaret Davis, and George Kay.

7. The conference has been greatly enriched by the presence and viewpoints of the gracious lady from Puerto Rico, Mrs. Lydia Mariani de Morales, and the gentleman from Canada, Mr. William E. Sager of the University of Toronto.

8. It is recommended that a Tenth Lake Okoboji Audiovisual Leadership Conference be held in 1964.

(Resolutions Committee - Final revised report - Continued)

9. It is recommended that reports of this conference be sent to the state DAVI organizations and other state audiovisual groups to assist them in promotion of their various activities.

10. Institutions engaged in training teachers should be apprized of the central relevance of concern for learning theory and principles in production, selection, and utilization of educational media.

11. It is recommended that editor-in-chief, Leone Lake, and her editors, Gordon Blank, David Little, and Richard Nibeck be given thanks for the excellent quality of the conference newsletter, "The Blabbermouth", and recognition for the dedication that their efforts demonstrated.

RESOLUTIONS COMMITTEE:

William Allan - Chairman
Kenneth McIntyre
Richard Nibeck

PRESS RELEASE

Re-evaluation and application of contemporary learning theories in American education is becoming increasingly important, according to sixty (60) educational media specialists attending the Ninth Annual Audiovisual Leadership Conference at Lake Okoboji, Iowa. This invitational conference, attended by representatives from public schools, universities, state departments of education, educational agencies, and industry, and sponsored by the State University of Iowa and the Department of Audiovisual Instruction of the National Education Association, was held August 18-22, at the Iowa Lakeside Laboratory.

The knowledge explosion, coupled with the current revolution in educational technology requires educators to re-examine today's teaching practices. The conference directed its attention to this problem and how educators may best use the educational media, in terms of appropriate learning theory, to assist in this situation.

Dr. Donald Snygg, Professor of Psychology, New York State College, Oswego, and Dr. Wesley Meierhenry, Professor of Education and Assistant Dean, Teachers College, University of Nebraska, served as consultants for the conference. Lee W. Cochran, Director, Bureau of Audio-Visual Instruction, State University of Iowa, was conference director.

PRESS COMMITTEE:

Harold Hill - Chairman
John Dome
Charles Benton

CONFERENCE SUMMARY

Curtis P. Ramsey

This conference presently concluding represents a significant departure in emphasis from other Okoboji conferences . . . and in fact . . . from the general concerns and focus of our parent organization, the Department of Audiovisual Instruction. One critic created quite a stir in Miami Beach with his slap at a sister organization of ours which used "Leadership" as a part of its journal title, but did not seem to "lead" in the current revolution of instructional technology.

A counter-thrust could be made that DAVI largely has neglected the "I" in its title. However, this deficiency is in the process of remedy within the organization . . . as indicated by our presence here to study the theme . . . "Learning Theory as it Relates to New Media and the Learner". Don Snygg remarked that our title needed reversing to focus on the Learner, and the Relation of Learning Theory and New Media. This emphasis is generally the task to which we set our hands on Sunday.

We were stimulated by the presence and personal and scholarly influence that our conference consultants, Donald Snygg and Wesley Meierhenry exercised.

Although both consultants reviewed the prominent learning theories extant, each indicated the limitation of applying theoretical constructs to practical, day-to-day problems of keeping school.

With this pronouncement, most of us experienced a real disappointment, since we so keenly felt the need for a precise, "scientific", answer to the complex problem of organizing an instructional program which utilizes the newer media adequately.

Our deliberations, therefore, became infinitely more complex as we discovered that we could not escape the professional imperative of: 1. establishing a philosophy of man- a new thought for DAVI; 2. developing a rational description of the teacher and learner; 3. projecting adeuqate educational objectives; 4. establishing adequate guide lines for the selection of content; 5. framing criteria for the design of learning spaces and facilities; and 6. evaluating the characteristics of media for instruction. The most difficult task remained of relating all these variables to the constants of learning theory principles, and universal characteristics of learners.

This attempt was difficult, and partially fruitful. It would seem that the most significant outcome of the conference is not and would not be a scholarly document reporting our deliberations, but rather the exciting, invigorating, and highly frustrating process of study and discovery as we surveyed closely the principles of learning in at least three major different theoretical constructs.

We know more than we did when we arrived. We also know more acutely what it is that we don't know.

(Conference Summary - Continued)

We have also realized that you cannot honestly and responsibly make major decisions about media implementation apart from consideration of educational principles and objectives, and that all of these are inescapably bound up with an awareness for and a concern about the learner.

LEARNING THEORY AS IT RELATES TO NEW MEDIA AND THE LEARNER

Whatever we do in teaching depends upon what we think people are like. The goals we seek, the things we do, the judgments we make, even the experiments we are willing to try, are determined by our beliefs about the nature of man and his capacities. It has always been so. Teachers who believe children *can*, will try to teach them. Teachers who believe children are *unable*, give up trying . . . or spend their days on a treadmill, hopelessly making motions they never expect will matter. The beliefs we hold about people can serve as prison walls limiting us at every turn. They can also set us free from our shackles to confront great new possibilities never dreamed of before. No beliefs will be more important to education than those we hold about the nature of man and the limits of his potentials. Whenever our ideas about human capacities change, the goals of teaching must change, too. Whatever we decide is the best that man can *become* must necessarily set the goal of education.[1]

I believe that all of us go home more human than we came, more humble as we realize our limitations, and deficiencies, and more acutely aware of the awesome responsibilities for the liver and welfare of the children in whose name we meet and for whom we work. We cannot escape the awesomeness of professional choices.

Quo Vadis,
Okobojians?

---

[1] A. S. C. D., *Perceiving*, *Behaving*, *Becoming* - A New Focus for Education. 1962 Yearbook. (Washington: The Association, 1962) p. 1.

OKOBOJI 1963

The delegates assembled at OKOBOJI . . . and

were welcomedby . . .

Iowa's Dean Robert F. Ray

They elected chairman of rest . . . and . . . co-chairmen for the conference

Mendel Sherman **Raymond Wiman**

Murray Phillips, Ch., Planning Committee **Vernon Gerlach** **Loran Twyford**

They heard Okoboji history and Learning Theory

from **Lee Cochran**

from **Donald Snygg**

and Communication Theory

from **Wesley Meierhenry**

They worked in a large group . . .

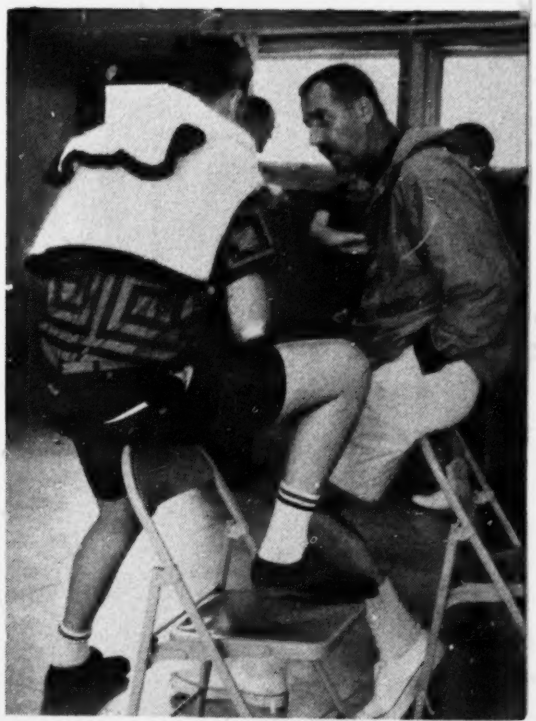
. . . in small groups

. . . recorded

. . . reported

. . . talked . . . listened

← DISCUSSED →

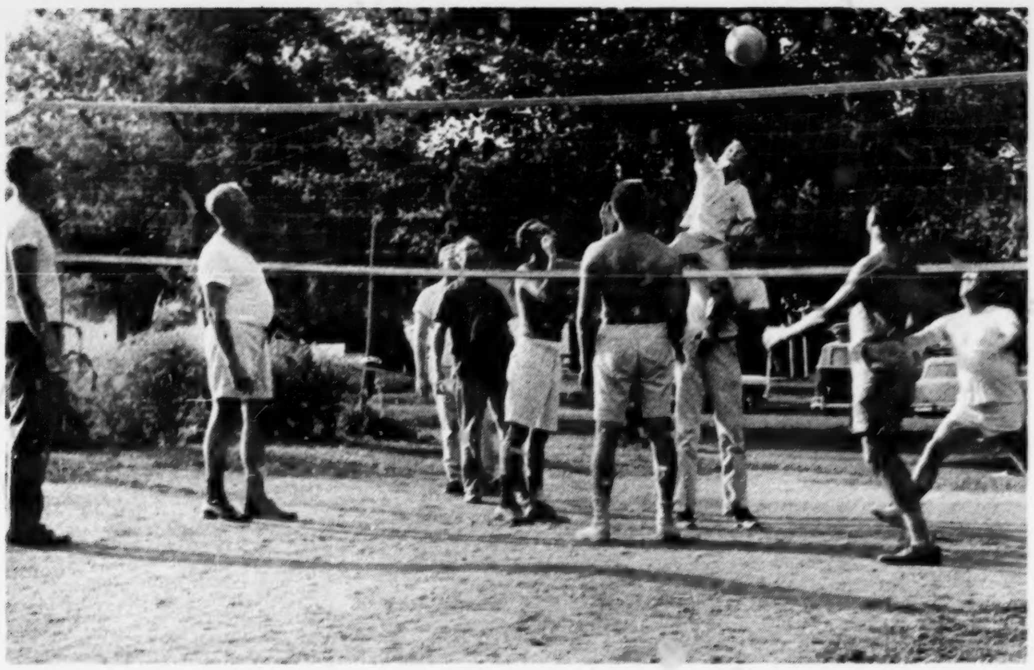


. . . returned to committees to work more diligently

They were serious

They laughed

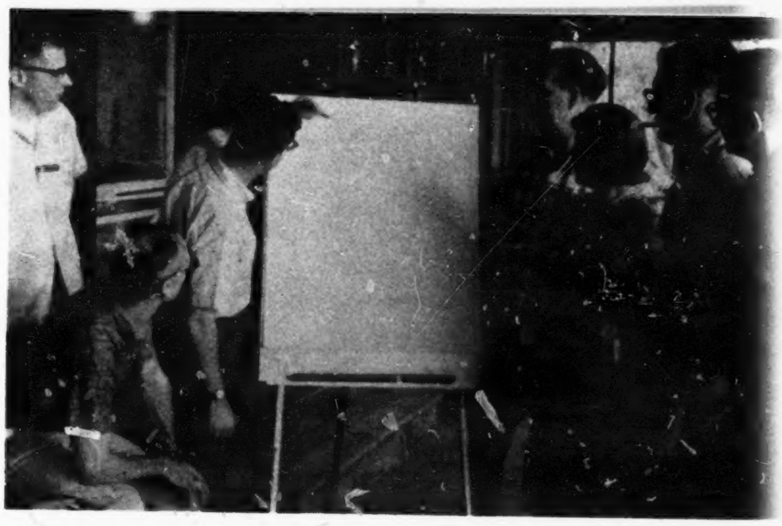
They told tall tales
and Tom Swiftlys



They played strenuous games

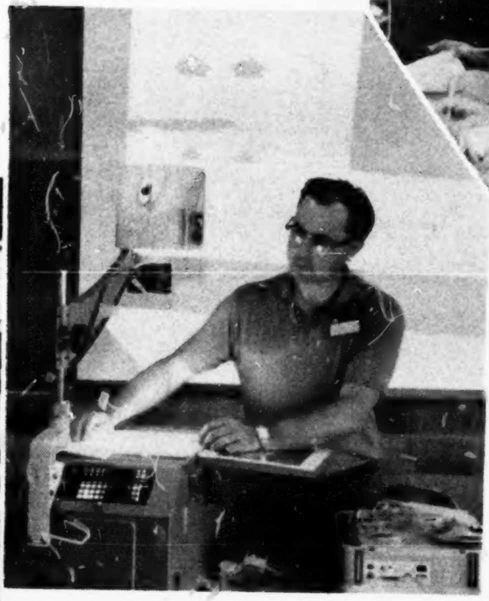
They ate good food

They sat on hard chairs



They worked in committees

. . . heard interesting reports



from Canada . . . and

. . . Puerto Ri

They had coffee breaks

They heard a stirring summary
"... all of us go home more
human than we came, more
humble... more acutely aware... "

Appendix (A)

CONCERNS OF DELEGATES
TO THE
NINTH LAKE OKOBOJI AUDIOVISUAL LEADERSHIP CONFERENCE

Relating to the Topic
"LEARNING THEORY AS IT RELATES TO NEW MEDIA AND THE LEARNER"

August, 1963

The "Concerns" of delegates were submitted at least one month prior to the Ninth Lake Okoboji Audiovisual Leadership Conference. This was considered as a "working paper" to assist delegates in identifying the problems for discussion during the conference.

BLANK PAGE

1. (Dixie Thompson)

    a. If learning is individual and personal, how does one produce individual learning in a mass enterprise?

    b. I believe I am right in saying that in the entire issue of "Learning Theory and AV Utilization" the only media mentioned is film. Should we not be concerned about the application of the learning theory to other media also?

    c. When we speak of laboratory findings and theoretical deductions concerning the learning theory, how can we insist that they must be checked out under classroom or school conditions?

    d. What do teachers state as their reasons for using audiovisual devices?

    e. What can we, as educators, do to encourage producers of AV materials to make a "task analysis" (Glaser) a requirement of materials?

    f. Let's spend some time on concrete suggestions as to what the teacher can do to stimulate reasoning and concept attainment.

    g. What can we, as educators, do to encourage producers of AV materials to supply information describing the kinds of reactions different groups give to particular materials?

    h. Is anything being accomplished toward the investigation and development of multi-level narrations as applied to selected educational film?

* * *

2. (Wesley J. F. Grabow)

    a. How important to learning are the proximity and realism factors in student-teacher relationships?

        (1) Regular classroom lecture.

            (a) Auditorium and other classroom design.

            (b) In designing teaching tools and materials.

            (c) Etc.

        (2) Instruction transmitted by TV.

            (a) Image size

            (b) Realism factor

            (c) Etc.

(Concerns submitted - Continued)

(3) Canned instruction such as film and video tape.

(a) Image size

(b) Immediacy factor

(c) Etc.

b. How can we encourage more basic experimentation that leads to research, in our schools and on our college campuses?

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3. (Viggo B. Rasmusen)

a. Audio-visual devices, and more especially programs for teaching machines, appear to be primarily concerned with overt responses rather than developing curiosity on the part of the learner. They seem to be lacking in fostering the problem-solving techniques and developing the habit of critical thinking.

Thought should be given to developing processes and stress of facts should not be the primary goal of the learning process. Self discovery and actual doing as advanced by the John Dewey Philosophy should be the goal of program writers so that new curriculum experiences will be provided for the learner. Since teaching machines proceed in a step-by-step fashion, the learner experiences only a piece-meal picture of the total process. The process that leads to the response should be emphasized as well as the facts, since the facts alone are perhaps of little value to the learner in the total process.

Developing audio-visual devices that stress curiosity-seeking, problem-solving, and critical thinking are difficult to develop. t should be the concern of all people in this area to explore and strive for this goal so that these devices do not merely become mechanism for drill, busy work, or mechanized responses.

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4. (Marjorie E. Jarvi)

a. How can the newer media encourage an individual to question, to analyze, and to create?

b. Active and sustained participation is the key to efficient learning. How can the newer media be utilized to fulfill unmet learner needs and challenge the various types of learners?

c. Remediation is a costly process for school systems. Could early use of newer media substantially reduce inefficient learning?

(Concerns submitted - Continued)

d. We know that learning is multi-faceted, value-connected, affective -- how can these elements of learning process be provided for through newer media?

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5. (Phil Lewis)

a. Learning theory seems to have been greatly concerned with the process of the acquisition of information, the development of skills, and the acquisition of pre-structured conclusions. I realize this is, perhaps, overstating the case, but this is necessary to make the point.

   What can be done to turn some of the focus on the stimulation of creative thinking, the knowledge of process that leads to independent study and discovery, the use of the intellect to explore, rather than to store?

b. The advent of multi-media presentation systems assumes that if one approach is good for learning, that many stimuli are better (again an over-simplification). Seriously, how do we really know that simultaneous or sequential alternation of visual, audio stimuli, etc. are really more effective than a single, well-planned approach?

c. What is the place of programed instruction in the total program of education? Although last year's conference was devoted to programed learning, this particular topic is pertinent since learning theory must now touch media in its entirety, rather than as separate parts. We have for too long developed different approaches without regard to the rest of the field. This, of course, involves systems, but it also involves teachers, students, materials, etc.

d. The conflicting opinions of authorities in the field of foreign language teaching with the traditional, audio-lingual, and middle-of-the-road group must be reconciled if real progress is to be made. The principles involved here apply to all other fields of learning in many ways.

e. It has been predicted that the school of the future may consist of the student attending formal instruction at school for perhaps 2 - 2½ days per week and taking the rest of the time for self-directed work at home through the use of special media. Does this concept have merit? At what levels? With what designs?

f. Perhaps learning theory studies should be concerned with stimulation and the raising of aspirations as well as other factors. The dropout situation and similar conditions make it vital that the school-holding power be increased. How can this be done?

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(Concerns submitted - Continued)

6. (Jerrold E. Kemp)

   a. To identify the common research-proven principles among the various approaches to learning theory.

      (In literature articles, chapters, or sections of papers generally treat a single theoretical approach and it is usually left to the reader to generalize for himself and attempt to develop relationships, which because of different terms and interpretations is very difficult.)

   b. To take these general or specific principles that can be concluded from learning research and make direct, practical, item-by-item reference to instructional applications concerning production, planning for use, and actual classroom utilization of the new media.

      (I call attention to the paper by G. M. Torkelson, "Implications of Research in Newer Educational Media for the Role of the Teacher and for Teacher Education," in Newer Educational Media, papers of the Regional Conference at Pennsylvania State University, 1961. Eight principles of teaching and learning were selected and statements concerning implications for instructional media are clearly made. I feel this must be a key outcome of the Okoboji Conference if leaders in audiovisual programs are to have research-proven evidence to justify, extend, and make proper use of new media on local levels.)

   c. To extend knowledge about learning theories to include communication theories.

      (This concern might be beyond the purpose of this conference, but I cannot clearly see the separation of the two. To me, communications theory is a sub-topic of learning-behavior theories and must arise in our discussions concerning the latter in order to put audio-visual communications in proper perspective.)

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7. (Harold Bowman)

   a. More seriously, as I read, I am not sure whether theories of learning are actually hypotheses in the truest scientific sense, or whether they are more similar to a philosophy. With such wide divergence of opinion, how does one go about using these "opinions" in any sort of constructive way?

      Along the same line, when there is so little agreement among learning theories, would it not be just as well to take the approach of trying various "methods" to provide additional information for the theorists rather than just the other way around.

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(Concerns submitted - Continued)

8. (Mendel Sherman)

   a. We now have a number of models and learning theories. How do we go about selecting, evaluating, and applying these theories to specific learning situations?

   b. What is the influence of learning theory upon the nature of media which are produced?

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9. (Perry Graybill)

   a. This concerns new media in terms of automated instructional systems. How is it possible for computer-based instruction to contribute to an instructional program based on Gestalt psychological principles?

      (1) How can imagination and originality be encouraged and developed?

      (2) What is the relative role of automated instruction and "Mr. Chips"?

      (3) How can automated instruction contribute to "permissive environment"?

      (4) How can interpersonal relations be fostered by automation?

      (5) How can automation contribute to development of leadership qualities of Robert E. Lee rather than those of Admiral Rickover?

      (6) How can automation prevent or alleviate spiritual illiteracy?

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10. (Gordon Blank)

   a. How can audiovisual people cope with the ever increasing volume of theory and research dealing with the increasingly broader scope of our work? We need to be specialists not only in all the media but also in learning psychology, curriculum, administration, communications, etc. How can we increase our depth of knowledge in an ever expanding circle of activities?

   b. Learning theorists frequently seem to have difficulty in communicating among themselves. The lack of a universe of discourse is considerably greater between theoretician and practitioner than it is among theoreticians. It is not surprising that the classroom teacher has difficulty in translating theoretical frames of reference into operational terms. This concern, therefore, is one of communications; providing a universe of discourse between learning theorists and classroom teachers.

c. A pitfall that educators must recognize is the sheer fascination with the hardware technology that characterizes new media. We need to focus more attention on the underlying behavioral technology that is the bedrock for the hardware. A concommitant of this is the alignment of educators to various types of new media. It seems to be that we have media people who are more concerned with promoting their particular "brand loyalty" of media, e. g. TV "loyalists", Programed Instruction "loyalists", Motion Picture "loyalists", etc. without an overall orientation to all media.

d. The behavioral scientist seems to over-extend himself in striving for the degree of description, prediction and control that characterizes the physical scientist. This over-extension is admirable in the theoretical realm, but unfortunately it seems to filter down to the operational level, where it is grossly misunderstood. As a consequence, many practitioners find themselves in the unfortunate position of aspiring for a precision that would be more appropriate for tangible objects rather than for human beings. This concern, therefore, is a plea for humility in recognizing the state of complexity of human behavior in terms of the lack of a concise body of knowledge about it. We need to recognize that truly little is known about human behavior at the present state of behavioral science knowledge.

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11. (David V. Guerin)

a. It is said that learning is the reorganization of experience.

I would like us to examine "depth of experience" as this thought relates to "new media" or the concept of mediation. Do not media simply mediate between the learner and "reality"? Do the media have a reality of their own?

We should examine communication theory and learning theory at the same time.

b. There is a danger in thinking that you must throw your full belief to one established theory or another.

Man is so complex that his behavior and his manner of learning can be varied and complex. It could fit field theory in one aspect and behaviorism in another.

c. Is memorization learning?

d. Is a man learning when he learns symbols?

e. What's new about the new media as mediators?

* * *

(Concerns submitted - Continued)

12. (Luke L. Boone)

Affect on Learner

a. Is his interest maintained during sequential operations of the learning program?

b. Is the learner under undue pressure to accomplish the goal?

c. Does the device hinder the development of one's individuality?

d. Are group participation and social skills overlooked in the process of learning via machine?

e. Is there sufficient incentive for the user of the machine device?

Safeguarding desirable features of the learning process

f. Does the device follow basic learning patterns as established through research?

g. Are safeguards placed in the devices to prevent improper development to occur in learning process?

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13. (Loran C. Twyford, Jr.)

a. I am concerned with the large number of intervening variables between learning theory and the development of a life adjusted person. Our dealings with learning theories and much of our study of educational practices appears to be valueless. Education has become so institutionalized that little of value is obtained from studying or participating in it. Retention of information is so slight and that which is retained is so useless that I see little of value in studying learning theories as we now know them. Instead, I would study the human task of living, provide the required knowledge when it is needed in the most efficient manner and constantly refine the process to meet the needs of the individual and society. This "operationalism" may be a theory with a minimum of abstractness.

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14. (Clifton L. Kessler)

a. How much new media is good in education? We have a complete spectrum from trying to use no visual aids or new media in the classroom to using all new media and possibly doing without a teacher in the classroom. At what place in this spectrum do we achieve a balance where learning is maximized?

(Concerns submitted - Continued)

b. How does teacher personality enter in? Do some teachers do better using no new media than others using all new media or vice versa? Does teacher personality enter into effective use of new media?

c. Do various subject matter areas or levels lend themselves to the use of new media? In many subject areas, the student will merely acquire fact. In others, it becomes necessary to do critical thinking. Does the use of new media lend itself to either extreme? If not, what balance of fact and thinking is most effective for learning?

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15. (Hazel Gibbony)

a. Concern with the development of "learning centers" (classrooms, libraries, laboratories) in which teaching materials can be utilized flexibly by groups and by individuals.

b. Concern with the development of suitable audio-visual materials to implement utilization.

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16. (Vernon Gerlach)

a. What does learning theory tell teachers regarding the instruments which permit the learner to make the desired responses?

b. What does learning theory tell teachers regarding the means of presenting information?

c. What does learning theory tell teachers regarding the desirability of predetermined learning sequences?

d. What does learning theory tell teachers regarding the problems involving media which need to be researched?

e. What does learning theory tell teachers regarding the use of self-contained instructional presentations?

(1) films
(2) audio instruction
(3) instructional television
(4) self-instructional programs and devices

f. What does learning theory tell teachers regarding the use of adjunctive or non-programed materials?

(Concerns submitted - Continued)

g. What does learning theory tell teachers regarding stimulus control factors in presentation of material?

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17. (Carol S. Holman)

a. How can those responsible for the newer media and their proper utilization assist instructors with their presentations, particularly those in large class situations?

b. How can we use programmed learning to assist students in large classes? Are certain theories of learning more effective than others here, particularly at the college level?

c. In planning spaces (buildings and rooms) for learning, what specific suggestions can be made concerning provisions for the newer media?

* * *

18. (John P. Vergis)

a. Of all the learning theories advanced to date, none save Skinner's brand of behaviorism have been accompanied by blueprints precise enough for use in actual classroom situations. My concern, therefore, is to examine the various theories with a view toward applying relevancies to a system of learning implemented by new media. Note the accent on the word system. Everything we know about learning should be used to interrelate both old and new media into systems that will function in predictable ways.

b. The rapid rise of new media as well as methods of interrelating them have brought us in the AV field to the verge of an important decision - Should there be some kind of clearing house through which media (includes programs) be evaluated? I am thinking specifically of those media designed to aid learning in our own fields. Only in this way, perhaps, would there be some check on learning principles and the way they were utilized. Also invaluable guidelines could be established to aid production of materials. For example, how should individualized single concept films be shot and assembled for best results? How can films of this type be best integrated with verbal programing? How can programing be applied to the teaching of motor skills? Etc.

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19. (Charles Benton)

a. How can the New Media assist in situations as described in "New Insights and the Curriculum", ASCD Yearbook, 1963?

(Concerns submitted - continued)

A teacher in a good high school discovered a boy of a 112 IQ in the eleventh grade who could read only at a third grade level. There was no evidence in his cumulative folder of how this state of affairs had come about. The teacher did not know how the boy felt about his reading disability or what she could do to correct it. However, a few weeks later she got the direct answer from the boy in a theme he had to write on the topic, "And finally I gave up the search in despair":

> When I was a boy in the first grade I was slow in most everything I did. I usual had to stay after school and finish my work. That was the first time I flunked. Flunked got to be a ugly word with me. The second year in the first grade didn't help me. The second and threeth grades went by and I didn't learn anything. The fourth grade I was flunked again. What was my trouble. It was reading. I never couldn't learn to reade and no one saw to it that I did. We can skip the grads fifth thourth ninth. In the tenth grade I had fully realize that I had to learn to read. I was seventeen and in the tenth grade. Mom got som outside help for me. It did some good for me but not enough. I still don't know how to read good and when you can't read you soon get discouraged and futhermore it would suit me ever well to get kick right out of here and when I use your sentence "finall I gave up the search in despair" I am talking of hope of learning to read.

A situation based upon a reading difficulty, but many situations could be presented based upon other difficulties which teachers are facing each year. I wonder how many pupils in our schools today can say "We can skip the grads fifth thourth ninth". Could the new media of instruction skillfully used by creative teachers assist materially in the learning processes?

b. How can the new media of communication assist in the development of intellectual and emotional learning at the same time?

c. How can a learning situation be structured or organized so that audio-visual devices accomplish their intended purposes and help move the learning into the desired direction? (What actually takes place between teacher, pupil and AV device?)

d. How can audio-visual devices be made meaningful in terms of life experiences and feelings of the learner as well as in the terms of the structure of the subject matter, resulting in a productive activity of students rather than a re-productive one?

(Concerns submitted - Continued)

e. How can administrators and teachers be induced to try to locate and isolate the fundamental educational problems and then select the new media techniques which can help to solve the educational problems in the learning processes?

f. How can the sensitiveness and understanding be developed in teachers needed to tailor the use of audio-visual devices in the complex learning processes of students?

g. The phrase "Learning Theory" implies emphasis on how an individual learns rather than what is learned. This raises one of the most fundamental concerns, namely the dichotomy between subject matter and methodology, between content and form. How can these 2 fundamental areas in education be more intimately and intelligently related?

h. Within each basic subject area what should be the fundamental goals and content of education? Until this question is answered with some clarity it is very difficult to apply appropriate media in seeking to solve the problem of communication inherent in the effort to achieve the above mentioned goals.

i. What is the unique contribution of each media in helping to communicate in each subject area? What are the unique strengths and limitations of each media in the communication process in education?

j. Once the goals and content in any basic area have been determined, what then is the right blend of media (each making its "unique contribution") that will do the best job of communicating to students of all ranges of ability? In the teaching learning process within each area, what media are most appropriate for which students - from the brightest to the slowest?

k. Given some general agreement on goals, content, media, and methodology, how can we solve the problems of pre and in-service teacher training in converting from the old ways to the new?

l. How can those of us in education become more sensitive to the needs of the learner in terms of the problems of society for which education theoretically is preparing them?

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EXCERPT FROM A LETTER OF JULY 31, 1963, FROM CHARLES HOBAN:

I have the feeling, wrongly I hope, that people in our field are not well versed in what we call communication theory. Actually, in a strict sense, we have no "theory", but in the broad sense that a theory is a series of statements of more or less law-like nature, we can construct the beginning of a theory of communication.

We have, in our field, a great deal of learning theory, which, in the hands of psychologists, has greatly proliferated and has tended to break up into cults of followers (disciples) of leaders (prophets). It is my contention that communication theory embraces all of learning theory, but not vice versa. This was one fundamental theme I intended to try to develop for the conference. To do this takes a great deal of work, even when the subject is discussed on the more general level.

Best of luck on the conference. Regards and apologies to all.

/s/ Charlie Hoban